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Original Communications.

ARTICLE I.—*Some Remarks upon Cases of Obstruction of the Bowels, in which Surgical means were used.* By A. REEVES JACKSON, M.D., Chicago, Ill.

CASE 1. *Strangulation of ileum by a band of adhesion—Puncture of Intestine—Gastrotomy—Recovery.*

The patient was a woman aged twenty-eight years. She had been married four years, but had never borne children. Menstruation commenced at thirteen, and had always been painfully performed. During the preceding fifteen months she had suffered from occasional attacks of apparently causeless constipation, accompanied by colicky pains, and followed by diarrhœa. Sometimes during these painful seizures she had experienced a degree of relief by getting upon her elbows and knees. At first these attacks were separated by an interval of six to eight weeks, but latterly, that is to say, within the past four or five months, they had become more frequent, the interval between some of them not exceeding two weeks. Besides, during the past ten months she had been suffering from a cough, which had become more and more troublesome, and in that period had had two slight attacks

of hæmoptysis. Still she had kept up, and was able to do ordinary household work.

The present illness had commenced on the morning of Oct. 2d, 1859, with sharp pain in the left iliac region, which was attributed to the ingestion of some improper article of diet. The pain was more constant than it had been on any previous occasion, and was increased by pressure. Without advice, she had taken a full dose of some purgative pills, and finding them ineffectual, at the end of five hours the dose was repeated. As these also failed to produce the desired effect, an ounce of castor oil was taken, and immediately vomited. From this time forward almost everything was returned that was taken into the stomach. The pain increased in severity, and was no longer confined to the spot in which it originated, but extended upward, and into the right side. The abdomen became swollen and its walls tense. A physician being called at this stage of the case, prescribed a turpentine enema, which brought away a small quantity of dark brown fæces, without relief to the symptoms. A second enema of warm water was then administered, but it came away in a few minutes unchanged. There being no facilities for giving a warm bath, the patient was then wrapped in blankets wrung out of warm water, and a teaspoonful of laudanum administered. This was retained nearly half an hour, and was then vomited, together with a draught of water, which she had imprudently taken. The dose of laudanum was repeated, and this time retained. The patient now became easier, and was drowsy. A purgative enema, consisting of an infusion of senna with sulphate of magnesia, was then given, and firm pressure made against the anus to prevent its return. Its pressure produced so much pain, however, that it was permitted to escape. All active treatment was now suspended. The patient was kept under the influence of opium, while small quantities of beef tea and brandy were given from time to time.

I saw her Oct. 4th, the third day of her illness. At this time she was in a state of semi-consciousness, and almost unable to speak. Her extremities were cold; pulse small, feeble, and rapid. Nausea and ineffectual retching were constant. The stomach had not retained anything during the past twelve hours. Her face, bathed in cold sweat, was pale and haggard, and its expression denoted that life was fast ebbing. The abdomen was enormously

distended, and the writhing of the enlarged coils of intestine could be distinctly seen through the walls which enclosed them. The rectum was empty and contracted. I was informed that the urine had been scanty, high-colored, and voided without difficulty.

With scarcely a hope of doing more than giving temporary relief, I introduced a small exploring trocar and canula through the walls of the abdomen, at a prominent point, into the distended bowel. This gave immediate exit to a large quantity of flatus, and the abdominal fulness rapidly subsided. Flannels, saturated with a hot infusion of hops, were applied so as to envelope the entire abdomen; sinapisms to the calves of the legs and epigastrium; and a teaspoonful of brandy, with a fourth of a grain of morph. sulph. was administered. The patient had become somewhat aroused, and expressed a sense of relief. A stomach tube was now passed into the colon and a large quantity of beef tea very gradually injected, but, despite every effort to prevent its return, it was expelled almost immediately. At the same time the patient vomited the brandy, and this was followed by eructations having a decidedly stercoraceous odor, although there was no fœcal matter thrown up. The tympanites returned also, and in an hour the abdomen appeared as large and resonant as it had been prior to the puncture.

I now proposed opening the abdomen, in the folorn hope that something might yet be done to overcome the obstruction which evidently existed, and the operation was decided upon.

Commencing a little below the umbilicus, an incision was made in the linea alba. and continued directly downwards three inches. On opening the abdominal cavity the omentum was brought into view, its lower edge being forced through the incision by the pressure of the distended bowel. The cut was now lengthened about an inch, when a large coil of intestine, very greatly congested, protruded through the wound. Taking hold of this, I commenced the work of tracing up the point of obstruction. This was soon accomplished. Making gentle traction upon the bowel, I found that it could not be drawn from behind the omentum, and upon raising the latter upward and passing a finger beneath it, the cause was apparent. It consisted of a band of lymph, about two inches in length and nearly half an inch in width, extending from the posterior free surface of the omentum to the lower side of the

transverse colon, forming a triangular space between these parts. A fold or loop of the ileum had insinuated itself through the opening thus formed, and becoming enlarged and congested, was unable to return. The band, which was tolerably firm in texture, was ruptured by the fingers, and the strangulated bowel freed. The portion which had thus been strictured was of a dark purplish color, while marks of incipient inflammation of the peritoneal investment of the small intestine above this point were everywhere present. I had the satisfaction of observing a very great change take place in the appearance of the liberated bowel before closing the wound. It became immediately filled with flatus, now able to pass onward, and its color changed from purple to dark red. I searched for and found the spot which had been punctured by the trocar. It was about fifteen inches above the point of strangulation. It formed the centre of a deep red space nearly an inch in diameter. The opening was no longer perceptible, and I was unable to discover the escape through it of either gas or fluid. I removed the whole of the adventitious band which caused the obstruction, and then, after carefully replacing the parts, closed the wound with four points of twisted suture. A flannel compress dipped in warm water was applied over the wound, and confined by means of a flannel binder, loosely pinned. During the time this was being done, large quantities of gas escaped per anum, and they were soon followed by a copious discharge of fluid fœces. Strict rest was enjoined, and a full dose of opium given.

The wound healed well, but the operation was followed by an attack of peritonitis, which was treated by opium, quinine, and a concentrated nourishing diet, and from which she slowly recovered. Nearly five weeks elapsed before she could be considered fairly convalescent.

This patient died of phthisis pulmonalis, in September, 1860, eleven months after the operation.

CASE 2. *Cancerous Disease of Sigmoid flexure—Artificial Anus—Death four months after.*

Thomas L., a farmer, aged forty-seven years, while ploughing, felt a pain in the left iliac region. At first it seemed slight, but soon became so severe as to oblige him to cease work. On reaching home, he passed a solid motion, with partial relief. The pain

soon returned as violently as before, and he took a dose of laxative medicine, which aggravated the pain, but produced no other result. His general health had been good, and his bowels regular until within the past two months, during which time there had been a tendency to constipation. During this period, also, he had experienced an occasional vague sense of uneasiness in the lower part of the abdomen, and sometimes this had amounted to actual pain, but it had never before become so severe, and had always been relieved by an action of the bowels. Towards evening he vomited. For eight days he grew gradually worse. In this time he had taken several doses of purgative medicine, and had a number of laxative enemata. The bowels had not acted at all. The urine had been abundant and was quite natural in appearance. The pain had extended over the whole abdomen, which had become very much distended. Vomiting had been frequent, but among the watery and bilious substances ejected, there had been nothing noticeably stercoraceous.

He came under my notice May 11, 1861—the ninth day of his illness. At this time he was very restless, and continually changing his position. He seemed to be suffering a great deal of pain, the pain and tenderness extending generally over the abdomen, which was greatly distended, especially at the umbilicus. Pulse 108, small and compressible; respiration quickened; countenance anxious; tongue thickly covered with a dark yellow coating.

A flexible tube was passed as far as possible into the bowel—about twelve inches—and a quantity of warm water thrown slowly in. It was retained about half an hour and then came away unchanged. Flannels wrung out of hot water, sprinkled with turpentine, were applied to the abdomen, and forty drops of laudanum administered, the latter to be repeated every three hours. Finding that the stomach would not retain this, suppositories, containing each two grains of opium, were substituted.

12th. 10 A. M. Symptoms much the same. There has been no action of the bowels. Pain rather less—a fact due probably to the effect of the opium. Pulse 120; distension of the abdomen about the same. Has had eructations with a fœcal odor, but no vomiting since last evening.

In the afternoon his condition became more critical. Vomiting had returned, and was now unmistakeably stercoraceous. The

pain was diminished, but his countenance assumed a peculiar leaden hue, and he expressed much anxiety as to his state, which he had not previously done. I proposed the formation of an artificial anus, and, having fully explained to the patient the nature and effects of the operation, readily obtained his consent.

Accordingly, having brought him fully under the effect of an anæsthetic mixture, consisting of one part chloroform and two of sulphuric ether, by measure, he was placed in a suitable position and the usual operation of Amussat performed on the right side.

An incision four inches in length was made parallel with the crest of the ilium, midway between it and the lower rib, commencing at a point opposite the sacro-lumbalis muscle. This was extended downwards until the three abdominal muscles, together with the anterior portion of the latissimus dorsi and a part of the quadratus lumborum were divided. A quantity of fatty tissue found at the bottom and back part of the wound, was torn away with the fingers and the handle of the scalpel, and the colon brought into view. It was readily distinguished, both by its fixedness and its characteristic greenish color. It was very greatly distended, and bulged slightly into the wound. A curved needle, furnished with a stout double thread, was passed through it, including about one inch between the points of entrance and emergence. Some of the cellular attachments of the bowel were then carefully separated, and by the aid of the thread it was drawn into the centre of the incision. A roll of cotton wool was packed around the bottom of the wound for the purpose of preventing the occurrence of fœcal extravasation. A transverse incision half an inch long was then made in the colon, and gave exit to a large quantity of fluid fœces and flatus. The distension of the abdomen rapidly subsided, and its walls became soft and supple. There could now be felt in the left iliac fossa a distinct hardness, occupying a space half as large as the open hand. The incision in the bowel was now increased to about two inches, and complete clearance having been effected, the edges were carefully attached to those of the integument at the posterior part of the wound, by means of silver wire sutures. The remainder of the wound was closed by hare-lip pins, with a view to obtaining union by first intention. Water dressing was applied, and strict rest enjoined.

The patient recovered well from the operation, but never fully regained his health, and died four months after.

With much difficulty, permission was obtained to make a post mortem inspection. In the upper part of the hollow of the sacrum, to the left side, was found an irregular hard mass, involving the lower two-thirds of the sigmoid flexure. It had completely obliterated the calibre of the bowel, so that I was unable to pass a small probe through without breaking the tissue. Ulceration had commenced at the upper part of the growth, and a small quantity of offensive, grayish pus was present. Above the seat of disease the bowel was thickened for a distance of nearly five inches, extending into the transverse colon. A similar condition was found also in the bowel below the growth, involving a portion of the rectum. A number of tubercles, varying in size from a pin's head to a pea, were observed in the neighborhood of the growth. On cutting into the diseased mass, the section presented a striated appearance, was of a whitish-yellow color, and varied much in consistence in different portions, being hard and dense in some places and soft in others—the latter condition obtaining most largely in the immediate vicinity of the ulcerated spot. Scattered throughout all parts of the growth, were to be seen isolated masses of transparent, gelatinous colloid. The cancerous character of the disease was beyond doubt. By request of the friends, the other organs of the body were not examined.

785 Michigan Avenue.

(To be continued.)

ARTICLE II.—*Case of Preternatural Labor, Complicated with Convulsions and an Hour-Glass Contraction of the Uterus.* By D. W. FLICK, M.D., West Grove, Iowa.

At noon, Dec. 26th, 1870, I was called to see Mrs. W., aged 20; primapara. She is of florid complexion, small frame, 4 ft. 11 in. in height, rather stout built, short neck.

Upon inquiry, I learned she had vomited every day during the whole course of her pregnancy, and that she was also troubled with habitual constipation. Her feet, legs and arms were much swollen, and she had complained of headache, dizziness, and trouble in voiding her urine for two or three weeks.

She had an operation of the bowels in the morning, and had urinated once or twice during the forenoon.

Upon examination per vaginam, I found the os uteri dilated about the size of a half dollar, and situated within an inch and a half or two inches of the ostium vagina, vertex presenting. She was very restless, and vomited once or twice during the afternoon. Pains were migratory, irregular and severe. To lessen their severity, I gave chloroform sparingly.

At 11 o'clock P. M. I found but slight change in the os uteri. I then ruptured a very strong membrane, which was succeeded by an unusually large flow of water. The patient grew very irritable, as the labor was slow and tedious. At 3 o'clock A. M., 27th, passed urine with much difficulty. At 5.20 A. M. she gave birth to a very feeble male child, weighing 6 lbs. 11 ozs., after which she seemed cheerful and in good spirits.

I had suspected another child in utero, and upon further examination found my suspicions confirmed. Vertex presenting. I immediately announced it to one of the ladies present, and in less time than it takes to write it, the patient was seized with convulsions. I then deemed it expedient to rupture the membrane of the second child, which I accordingly did, but pains did not return. I then dispatched a messenger for my forceps, a distance of five miles, and another as soon as possible for Dr. Sawyers, of Unionville. Gave her Brom. Pot. gr. xxv. At 7 o'clock A. M. she had another very hard convulsion, and by the time it had passed off, my forceps had arrived. I immediately chloroformed her, and delivered her of a male child, (not without some difficulty, as a large umbilical cord prevented easy adjustment of the forceps,) weighing 6 lbs. 12 ozs., and very feeble.

I immediately discovered an hour-glass contraction of the uterus, which, however, gave way with little difficulty. Placenta adhered, but easily detached. I think it would weigh 3 lbs. After delivery, the womb contracted tolerably well. There was, however, considerable flooding.

The effects of the chloroform now began to wear off. She spoke to me, and asked if she did not faint twice. I answered in the affirmative. She replied, "I faint very easily," and scarcely had she spoken ere she was seized with another convulsion, which was very severe, and lasted ten minutes. 8 o'clock A. M.

Gave Brom. Pot. gr. x. every ten minutes, and, determining to forestall the next convulsion, used chloroform very freely. But in this I was disappointed, for in a few minutes after 10 o'clock she was seized with another.

In the meantime Dr. Sawyers had arrived, and both rendered me valuable assistance and encouraged me with his timely presence.

We then added Brom. Ammon. gr. xv. to Brom. Pot. gr. xx., and gave every half hour. Kept her under the influence of chloroform, with slight letting up occasionally. Her tongue at this time was much swollen, and somewhat coated. Pulse 90, and very feeble. Temperature natural.

After giving one or two doses of the above prescription, there was so much difficulty in swallowing that we discontinued the Ammonia, and gave Brom. Pot. as before. At 12.50 P. M. she had another convulsion, while completely under the influence of chloroform. At 1.50 another. At 2 o'clock we gave Hydg. Submur. gr. xx, and Morphia gr. ss. At 2.12 she had another convulsion.

Dr. Sawyers then introduced the catheter, and drew off about xij. oz. water.

At 2.32 another convulsion; 2.55 another; 3.30 another; at 5 o'clock another, which proved to be the last.

In accordance with Dr. Sawyers' advice, (his business being such that he could remain no longer with me,) I gave at 8 o'clock P. M., gtt. v. Oleum Tiglii, in a teaspoonfull of castor oil. At this time the urine passed freely.

It was impossible to get her to swallow anything from this time up to 9 o'clock A. M. of the 28th, but she was perfectly comatose for the space of thirteen hours.

At 9 o'clock her bowels moved, urine passed freely, and consciousness partially returned. I commenced Brom. Pot. gr. xx. every hour. Bowels moved at 12 o'clock, and a large amount of very offensive fœcal matter passed. Patient better. At 2 o'clock P. M. bowels moved again, and at 3.

I had now been absent from home over forty-eight hours, and felt obliged to return, at least for a short time. Patient at this time was very restless, tossing from one side of the bed to the other. Gave gr. iv. Pulv. Opii, and Quinine gr. ij., to be given every six hours. Brom. Pot. every two hours.

Upon my return at 10 o'clock A. M., 29th, found pulse 110, feeble. Extremities cold. Gave Quinine, Opii and Camph., āā gr. ij. every four hours. Applied sinapisms and heated brick. Discontinued Brom. Pot., and gave beef tea and brandy toddy alternately.

Patient became quiet, and slept calmly and naturally. Treatment continued until the morning of the 30th. Pulse was then 90, full and regular. Temperature, 99. She was calm and rational, and could take a little nourishment. Pronounced her out of danger and left her. At last accounts, she and both infants were doing well.

ARTICLE III.—*On a few Instruments for the Practical Treatment of Uterine Disease.*—By PHILIP ADOLPHUS, M.D., Chicago.

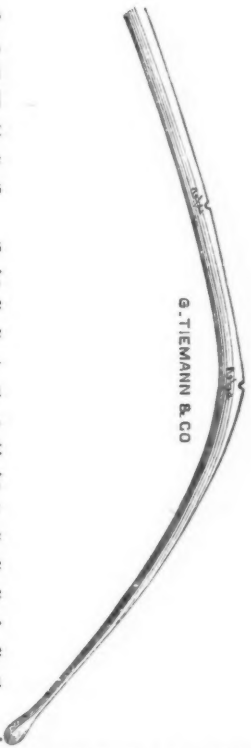
(Continued from February No.)

SIMPSON'S SOUND.
SIMS' UTERINE PROBE.
SIMS' UTERINE ELEVATOR.

When a man has become accustomed to the use of one instrument, he feels awkward when a new one is placed in his hands, even though it may be vastly superior to the old, and is therefore loth to adopt it. A valuable discovery or invention often requires a long period to secure its acceptance by even the most enterprising of our profession. It is not surprising, then, that the mass should be slow to adopt improvements. Thorough acquaintance is necessary to appreciation.

The Uterine Sound and the Uterine Probe are illustrations in point. "Reviving simultaneously an old method of diagnosis which had been described in 1828 by Lair; Simpson, Hugier and Kiwisch, in 1848, claimed its discovery" (T. G. Thomas, Diseases of Women, 1869). We are indebted to Simpson for its application to uterine pathology. His teachings regarding the mode of using the probe are to-day just as satisfactory to the mass of the profession, and are practiced and expounded by its leaders in their text books, from Bennet, 1852, to Hewit, 1869, with as much force and unction as ever; despite its modification in consistence,

shape, and manner of introduction, by Sims in 1862, and the reduction of its size by Emmet still later. Thomas alone deserves the credit of having done that justice to his contemporary that all knew was his due.



Every one is acquainted with Simpson's instrument. It is a strong metallic sound, of German silver, 10 inches in length, and of the size of a No. 3 catheter, terminated by a slight bulb on one end, and by a flat handle at the other; at 2½ inches from the extremity of the instrument, there is placed a slight knob.

The mode of introduction of Simpson's sound is as follows: The patient being placed on her back, the forefinger of the right (or left) hand is introduced into the vagina, and its extremity brought in contact with the cervix uteri, so as to act as a guide to the point of the instrument. This, previously oiled, is held in the left (right) hand, and its point slipped along the palmar surface of the finger in the vagina, and directed by it into the uterine orifice. By depressing the handle, the point will slip along the cervix. If the proper curve have been given the instrument, its passage from the cervix into the cavity of the uterus to the fundus will then be effected.

The description of its mode of introduction is plain, but its performance is accomplished with difficulty, when deviations of the normal axis of the canal are present, and these are the cases which we are called on to examine by the sound. The difficulties of introduction in versions, increase largely in flexions, or when the cavity is distorted or partly obliterated by neoplasms, the tortuosity of the canal assuming hundreds of phases, each more trying and difficult to the operator. Care and gentleness, much patience, considerable dexterity, and great experience, are necessary on the part of the physician, and even

then in many cases, irritations more or less serious, nausea, faintness, injury to mucous membrane, and violent pain, are inflicted upon the patient, so that Tilt advises an injection of 20 or 30 drops of laudanum after the introduction of the sound. Scanzoni considers it by no means a harmless instrument. Bequerel (as quoted by Thomas) dreaded seeing it popularized in general practice. Nonat says that it should be only inserted with great caution, in cases where the necessity of its use is clearly shown.

It is not alone the abnormal disposition of the uterine canal which create these difficulties; the instrument is too large, too straight, by many used in the same fixed curvature, thus producing great pain. Sims acknowledges "that he had often the greatest difficulty with the German silver sound," and states that "he had seen a score of cases in consultation where physicians assured him it was utterly impossible to pass the sound, and that he had seen such excessive pain thus inflicted, that the patient could hardly be persuaded to allow a repetition of the process."*

But thus deterred by the difficulty of its introduction, the physician who rejects its use, neglects to avail himself of a useful means of diagnosis, and deduces incorrect conclusions from insufficient data of information.

It may truly be considered an epoch in Gynecology, when Sims introduced his speculum. Then for the first time could Simpson's sound be handled with safety and ease, the surgeon's eye guiding his hand; the *sound* thus used of necessity became a *probe.* It traced out the malpositions of the womb as painlessly as the surgeon's probe traces a sinus; it did more; it made the introduction of all instruments into the uterus certain, easy, painless, and the consequent treatment satisfactory; in short, after being modified by Emmet, it became, in competent hands, a delicate, nervous, insinuating, obedient finger.

Thus the probe—small, smooth, pliable—is Simpson's sound modified by Sims. He supplanted the labors of his illustrious predecessor, and has thus been enabled to cultivate the master's labors, multiplying the good received a hundred fold, to the glory of Simpson's memory, the advantage of the profession, and the benefit of our patients.

* Clinical Notes on Uterine Surgery, by M. Sims, fol. 20, 22, 23.

Sims' Probe, modified by Emmet.

The following teachings regarding the uterine sound, which emanated from the comprehensive mind of that illustrious man 28 years ago, are as true to-day as they were then. These teachings are contained in the text books of the day, and are easily demonstrated in practice by Nott's speculum and Sims' probe. They are as follows:

The probe detects—

(*a*) The alterations in the direction of the uterine canal.

(*b*) The connection of the uterus with pelvic growths.

(*c*) The existence of diseased states of the cavity, fundus, and walls of the organ.

(*d*) The existence of growths within it, and its mobility.

In the shops of to-day can be found Simpson's sound; also a plain, large, non-graduated, smooth probe, it is Sims'; and the still smaller probe of Emmet, which is now used by Sims. It is the latter to which the writer refers whenever he speaks of Sims' probe.

This instrument is made of silver, or of annealed copper, silvered. It is eight inches in length, of the thickness of a medium sized copper wire, without marks or notches, terminating in a bulbous extremity, and is mounted in a light wooden handle three inches long.

Simpson's instrument is used as a *sound*, that of Sims' as a *probe*, to measure the depth of the uterus, and to show in what direction the fundus lies (Sims); the writer also employs it *as a guide*, in order to convey all kinds of instruments into the uterus with ease, certainty and safety. The mode of its introduction is as follows (after having examined the patient by *bi-manual palpation, which should always precede any examination of the uterus*, for the purpose, amongst other reasons, of ascertaining the direction of the womb): introduce Sims' or Nott's speculum; if the former, place her in the semi-prone position; if the latter, on her back; draw down and steady the cervix with a hook (Sims') or tiny vulsellum (Nott's) introduced into its anterior lip. (We will suppose, that owing to spasmodic contraction of the abdominal parietes, fatty deposit, painful condition of parts, or for any other

reason, we have not been able to ascertain the direction of the womb in our first examination by bi-manual palpation). Take the probe in the right hand, and slowly, gently, patiently, with a light hand, use it precisely as a surgeon would probe a sinus. Bend the probe and introduce it in the position the womb ought to occupy if healthy; if it is arrested, insinuate it in a more bent position, for perhaps the womb is anteverted; if it is again arrested, introduce it acutely bent, with the point forward and the handle turned towards the sacrum, for perhaps it is anteflexed. If success does not follow, and the womb is known to be extremely anteflexed, take a couple of Sims' sponge-holders, arm them, place them into the anterior cul de sac and under the anteflexed fundus, and patiently coax it to raise itself; it will then be possible to introduce the probe. Or again, if the womb be retroverted, the point of the probe is to be directed towards the sacrum; if it meets with an obstacle, it is to be removed and re-introduced in a different curvature. It will be found that in many cases of flexions, that the probe for half an inch or an inch is introduced in the normal manner, when suddenly the womb is found to be anteflexed, retroflexed, or assumes a right or left latero-flexion, and the probe will have to be bent in the corresponding direction.

In acute flexions of the organ it is sometimes impossible to introduce the probe until the canal has been somewhat straightened by lifting up the fundus, either from the bladder or rectum, by means of small pieces of sponge, inserted in Sims' sponge-holder, and placed in Douglas' fossa, the rectum, or in the anterior portion of the vagina. Two of these sponge-holders persuading the womb, will slowly replace the organ sufficiently to allow of minute probing and applications even if it is bound down by adhesions.

If we cannot succeed in introducing the probe *without pain*, it is best to postpone the introduction to a future period, and apply glycerine suppositories if the parts are tender or inflamed.

As a general rule, the operator will succeed with more or less ease, *provided he exercises prudence and patience, and in difficult cases does not insist upon completing the diagnosis at the first examination.*

The probe should not be introduced without a proper speculum in situ.

The bi-manual examination will always produce more pain (if

pain is felt at all) *than the probing of the womb, even in difficult cases.*

The probing of the cavity of the womb as a means of confirming the diagnosis made by the touch should be considered in every case of uterine disease, an essential constituent of the examination of the patient, not merely as a means of diagnosis, but also of treatment (vide Sims, Thomas). *The contra-indications to this imperative rule will, however, be stated anon.*

No one can diagnose diseases of the pelvis, and especially inflammations of the womb, with their accompanying complications, with justice to himself and his patients, unless he becomes an adept in the use of the uterine probe.

Knowing that the curve of the diseased womb varies exceedingly in different cases, the writer has derived great assistance in preceding the introduction of any instrument into the womb, by the probe, and has thus succeeded in rendering treatment *comparatively* painless in his hands. He, therefore, can recommend with confidence, to the profession, *the use of the probe as a guide* to every instrument to be introduced into the cervix, body or fundus of the womb. In order to elucidate the method adopted, he will illustrate it. Take, for example, a case of corporeal metritis and endometritis.

1st. Introduce probe for diagnosis; womb five inches, direction normal.

2d. Introduce probe, to be left in situ; insinuate gently into cervix Nott's cathether, for the purpose of cleaning the womb; if it can enter with ease, remove probe, pass in catheter and wash out cavity with warm salt water; if not, while withdrawing probe, introduce Nott's dilator, and if dilatable, gently dilate cervix at once, gradually and slowly, telling the patient to inform you when it hurts her *much*, during dilatation.

3d. Introduce probe, followed by Nott's catheter; womb cleaned.

4th. Introduce probe, followed by Emmet's applicator, armed with a pledget of cotton saturated with glycerine, followed by a suppository of cotton wool saturated with glycerine, placed under cervix; both to be left in situ for twenty-four hours.

Finally, Introduce a rectal pill of Morphia and Belladonna.

This treatment is repeated daily, until cavity of womb is less

tender, and cleaner. Of course in all cases proper constitutional treatment is given.

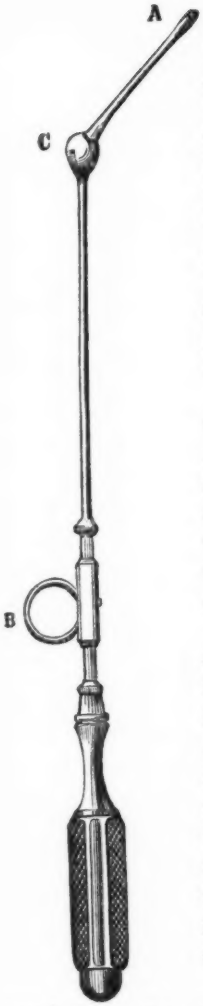
Then repeat Nos. 1 and 2; the catheter is followed by the probe, that by Pinkham's Intra-Uterine Scarificator; that by the probe, for the purpose of applying, by means of Emmet's applicator, an intra-uterine suppository of cotton charged with glycerine; another is placed in the vagina, and the patient arises from the chair, despite the constant probings, with less irritation than if it had not been used; because all the instruments have performed their office as painlessly as possible, no bungling having been tolerated; the probe previously introduced has permitted them to follow the identical channel just as painlessly, owing to previous dilation, if necessary. Many readers will doubt that this mode of using the probe can be as painless as the writer represents it, therefore he will hold himself in readiness to demonstrate this whenever called on to do so.

Let us recapitulate. The three fundamental requisites of efficient uterine diagnosis and treatment are, bi-manual palpation, a proper speculum (Sims' or Nott's, described in the February number of this journal), and the probe used as a probe and a guide.

The restoration of the retroverted uterus to its normal position by Simpson's sound, is fraught with difficulty, always with pain and hæmorrhage, sometimes with danger of perforation of the fundus. The retroversion is diagnosed by the introduction of the sound, the instrument is then turned for half a circle, the fundus is elevated towards the sacrum, during which operation the whole weight of the organ is supported on the point of the instrument.

It is much safer to reduce these flexions by means of position, the hand, armed probangs, etc. The sound should, according to Tilt, Sims, and Thomas, not be used for that purpose.

Sims' Uterine Elevator is a useful instrument, constructed on correct principles, and preferable to Simpson's sound.



* It is a sound; two inches from its uterine extremity is a hinge joint, on which is placed a disk. The instrument is 13 inches long, and consists of a handle (3 inches), a shaft (7 inches), and a uterine stem 2½ inches, inserted into a disk which revolves at the end of the shaft. The disk is perforated by seven holes (the stem occupying the eighth). The shaft is a hollow cylinder containing a rod, which is retracted or pushed forward at will, so that its point may lodge in any one of the perforations in the disk, whereby the stem may be held firmly at any angle with the shaft.

It is used as follows: Introduce the probe for diagnosis, adjust the stem of the Elevator at the proper angle with the shaft, introduce it into the uterus, press the disk close up the os tincæ, push the mouth of the womb downwards and backwards in the direction which was, at the reception of the manœuvre, occupied by the fundus.

"This instrument is simply Simpson's sound with a joint or hinge two inches from its uterine extremity; but its *modus operandi* is very different. One elevates the uterus in a right line, the other in a circle to the right or left; one supports the weight of the organ on a ball at the os, the other principally on the point of the sound in the uterine cavity; one elevates the uterus by a power exerted on the cervix, the other by a like power on the fundus; one seldom produces any pain, the other often does." †

The contra-indications to the use of the sound and probe are, pregnancy, suspected pregnancy, *fatty degeneration of the uterus, accompanied by a state of excessive*

* Vide Op. Cit. and Am. Journal Med. Sciences, January, 1858.

† Sims' Op. Cit., fol 260.

superinvolution; and amenorhœa, until the cause of the cessation of the menses is ascertained.

In conclusion, many of the cases of perforation of the uterus reported to have happened in the practice of skillful operators by means of Simpson's sound, and for which the instrument and the mode of its introduction have been condemned, have no doubt been caused by the pathological condition of the uterus itself, which, according to Simpson, Scanzoni, Byford, Hewit, and especially Klob, after frequent pregnancies and abortions, complicated and followed by puerperal fever or subsequent inflammation, has become atrophied by fatty degeneration.

A uterus thus diseased, flaccid, softened, friable, with walls sometimes as thin as paper, is liable to be perforated by any instrument; and the utmost care will not prevent this accident. In a subsequent paper this subject will be treated in extenso.

Finally, it has been the object of the writer of this paper, to suggest the *general adoption of the modified Sims' probe* (*by Emmet*); *its mode of introduction with the speculum in situ; the rejection for purposes of diagnosis of the stiff German silver Simpson sound, and its mode of introduction without speculum, as now taught in the text books; and the entire rejection of Simpson's sound as a redressor in cases of retroverted uterus.*

It must, however, be admitted by the writer, that many eminent men pass Simpson's sound and other instruments, with and without specula in situ, with safety to the patient and satisfaction to themselves. This only proves that these gentlemen can by dint of practical manipulation perform, with inadequate means, what the general practitioner will not attempt, and ought not to.

If the illustrious Simpson were yet with us, he would be the first to adopt the latest improvements; let not then the weight of his great reputation stand in the way of real progress.

169 Dearborn Street.

Our Officinal Cathartic Pills. By E. INGALS, M.D., of Chicago.

The cathartic pills made officinal by our pharmacopœia, appear to me to lack the properties which the necessities of the profession require in such preparations, namely, efficiency and gentleness of action, the compass small, the ingredients inexpensive.

The following are some of the points that may be urged against them. They all require so large a number to produce cathartic action, as to constitute with most patients a serious objection to their use, and the poor quality of the drugs often employed in compounding them serves but to increase the weight of this objection. In a number of them aloes is the chief ingredient, and cathartics are often required when the conditions of the large intestines and pelvic viscera contra-indicate the use of this article, at least in such doses as are usually prescribed. Rhubarb, and the compound extract of colocynth, are expensive, and therefore often adulterated, a choice article of either costing twice as much as that usually kept in the shops.

The suggestion of a cheap remedy is a matter of more than pecuniary significance, for the maxim of Pliny, "the poorer the purer," applies with equal force to other articles than stimulating beverages. Against the compound cathartic pills lies the more serious objection that each pill contains one grain of calomel. These, I fear, are often prescribed because they are officinal, and stand ready on the shelf of the pharmaceutist, when the physician would not think of writing for calomel in a prescription for his patient—but the practice, first adopted from convenience, soon becomes a habit.

Mercurials should never be prescribed unless the physician has in his mind a clear reason for supposing they will accomplish some desired purpose better than any other article; but to administer them as cathartics are most frequently used—simply to unload the bowels, to deplete the system, or obviate constipation—is altogether unwarrantable, and I doubt not this practice sometimes results in permanent injury to the constitutions of the sick.

Seeking to supply this desideratum, I have made trial of a

number of substances, united in different proportions, but the following formula has proved to me the most satisfactory:

℞. Aqueous Extract of Aloes,
Podophylin,
Gamboge, - - - - āā gr. xxx.
Oil of Caraway, - - - - - - - - m. vj.
M. ft. pil. No. lx.

I have had the pills made up and sugar-coated in a very satisfactory manner by J. W. Ehrman, a pharmaceutist of this city. The pill is small, weighing only three grains after being sugar-coated. One taken at bed-time will usually cause an evacuation from the bowels in the morning, and without occasioning either pain or nausea; but should one fail, or be thought insufficient, another may then be taken. I have rarely found it necessary to administer more than two, and for some patients who are peculiarly susceptible to the action of cathartics, the half of one is sufficient. The aqueous extract of aloes seems to contain the more cathartic principles of the drug, while it is the least irritant to the bowels, and the amount administered being so small, it does not appear to act injuriously, even in cases in which the effect of the ordinary dose of aloes is unpleasant.

Could some formula similar to the one I have indicated, be placed in the next revised edition of the pharmacopœia, I believe it would in a great degree supplant the use of the compound cathartic pill, and by so doing, prove a benefit both to the public and profession.

Belladonna in Cholera Morbus.

Dr. H. E. Whitehead having had occasion to treat several cases of severe attacks of cholera morbus, and having failed to relieve the first case with opium, ordered for the patient, pills containing one-third to one-half a grain of the extract of belladonna; one to be taken every four hours. The first pill relieved the sense of constriction or knotty pain in the region of the umbilicus, and after the third pill the bowels were freely moved, although several purgative draughts had been taken previously without effect. After having taken two grains of the extract the patient rapidly recovered, with no constipation, headache, or unpleasant symptoms. The result in three other cases, with the belladonna treatment, was equally successful.—*Pacific Medical and Surgical Journal.*

Rush Medical College—Alumni Meeting and Commencement Exercises.

February 1st, 1871, was a gala day at "Old Rush." The alumni meeting was well attended, and the commencement exercises were of unusual interest.

The alumni assembled at 10 A. M., in the lower lecture room of the College, ABNER HARD, M.D., of Aurora, the President, in the chair. Over two hundred alumni reported. After the usual formal business, the association proceeded to an election of officers, with the following result:

President—DR. CHRISTOPHER GOODBRAKE, of Clinton, Ill.
Vice Presidents—DR. J. P. WALKER, of Mason City; Dr. F. A. EMMONS, of Chicago.
Secretary—DR. S. COLE, of Chicago.
Treasurer—DR. W. C. HUNT, of Chicago.
Executive Committee—DRS. D. S. ROOT, J. W. TOPE, R. L. LEONARD.

After some further general business, of which the Secretary has not given us the details, the officers elect assumed their positions.

Dr. Goodbrake said the honor was unexpected. He had never before met with the association, but was well acquainted with many of the graduates, and he had always found them perfect gentlemen. In three years' service during the war, he had met many of them, and always found them to be faithful in duty and skillful in their profession. The doctor concluded by again thanking the association for the honor which had been conferred upon him. The language of Shakespeare, "Some men are born great, some acquire greatness, and some have greatness thrust upon them," could be applied to himself, as far as its concluding words were concerned.

Dr. Abner Hard, of Aurora, the retiring President of the Alumni, then delivered the annual address.

After treating at some length upon the importance and responsibility of the profession, and its achievements in alleviating the distresses of mankind, the doctor concluded his very able address as follows:

Twenty years ago, as we listened to the lectures of Professors Brainard, Herrick, Blaney, Freer, and their colleagues, little did we imagine what was to be the burden of labors. The most to which we aspired was to become successful practitioners of medicine. The future was full of hope, and the teachings of our Alma Mater were not such as to discourage us. But how has it been? Not only have we been called upon to battle with disease in its complex and multifarious forms, which too often has baffled our skill and sunk us almost to the depths of despondency, but cares and responsibilities have surrounded us, which were unlooked for and unthought of. An army of quacks and pretenders, of all grades and names, have swarmed about us, and a credulous people, not only willing, but apparently anxious, to be humbugged, have been, in too many instances, ready to put their faith and their lives in these men's keeping, generally paying a high penalty therefor, and yet ready to try it again.

The press, both secular and religious, for the sake of the paltry price paid for their advertising, have lauded, and puffed, and recommended these knaves and their nostrums, to the not unfrequent fatal injury of the individual, and the demoralizing of the community, and by some strange, mysterious and paradoxical arrangement the whole responsibility of the misfortune is most commonly thrown back on to the shoulders of the regular profession. The public should be more thoroughly informed in regard to the true claims and the true position of regular medicine. Much of the mystery that hangs about it should be swept away, and the science of it should in a far greater degree be reduced to the comprehension of the common mind. In a word, might not much of it be let down from its cold scientific heights and be made popular? The public might be shown, for instance, that all the known remedial agents of any *positive* value, and all the surgical appliances of any real merit, have originated with, or are traceable either directly or indirectly to, the regular school of medicine; that the substantial scientific basis on which it rests its claims to public support and consideration have been developed and built up during the present and past ages, by the members of its own school. It might easily be shown that all the great branches of medical science, such as anatomy, physiology, surgery, pathology, and many others, the slow growth of more than twenty centuries, have been brought to their present state of brilliant perfection by the increasing toil and unremitting labors of the regular profession. And with equal ease it might be shown that all other schools are fragmentary and partial, and that the little that belongs peculiarly to any of them that is valuable, belongs equally to us.

Besides the means already indicated, each regular physician can so deport himself as to educate and elevate at least a portion of his neighbors by a well ordered life and a faithful and skillful

discharge of his duties. Legislation, in my opinion, can afford us no relief, and enlightened public sentiment must, and in due time will, I am confident, do the work. "Blood will tell," is an old saying, and so also, I add, will science, so will skill, and above all, so will brains; and I think I hazard nothing in saying that while the regular schools of medicine, with all their vast, brilliant, scientific, and other achievements over the various forms of disease, while through their agency and instrumentality the average of human life has been lengthened from ten to fifteen years, and while also they are by no means, at the present time, masters of the situation, death and disease to-day baffling them on every hand.

I congratulate you, gentlemen, upon being honored members of the only true and catholic school of medicine known among men. I congratulate you upon being honored members of the most useful and scientific profession among men. I salute you as the honored sons of an illustrious and cherishing mother.

I salute you, devout and humble children, in the act of paying your annual tribute of respect and devotion at the shrine of your Alma Mater. May the sphere of her usefulness never be more circumscribed than now, but in the future, as in the past, may the star of her glory shine brighter and brighter until the perfect day; and may the time never come when her sons shall cease to hail her, salute her and love her as their cherishing mother.

At the close of the address of Dr. Hard, the alumni adjourned to the lecture room above, for the purpose of witnessing some experiments in the science of vivisection, to be made under the supervision of Prof. J. W. Freer.

[A general account of these experiments which were characterized by the usual skill, accuracy and success exhibited by Prof. Freer, will be given elsewhere by Dr. Wadsworth, his accomplished assistant.]

The evening exercises were commenced with prayer by Rev. L. C. Chamberlain.

The roll of the graduating class was then called, the President delivering them their diplomas. Their names are as follows:

E. V. Anderson, Illinois; W. W. Baxter, Illinois; W. E. Blackman, Iowa; H. S. Bachman, Michigan; T. H. Bragg, Iowa; A. L. Buchan, Wis.; G. W. Brandon, Illinois; J. M. Bartholow, Illinois; E. W. Clark, Iowa; E. J. Chapman, Indiana; F. C. Conan, Wisconsin; N. S. Craig, Iowa; C. W. Cornell, Iowa; D. B. Collins, Wisconsin; B. D. Copp, Wisconsin; J. Y. Galer, Iowa; R. C. Grigg Illinois; S. A. Greenwell. Nebraska; G. G. Goll, Illinois: W. R. Geiger, Iowa; Thomas Gilluly, Wisconsin; S. T.

Hurst, Illinois: Wm. L. Harcourt, Illinois; J. N. Hannaford, Indiana; John L. Hays, Illinois; B. R. Hall, Wisconsin; J. L. Hagerty, Indiana; C A Hudson, Tennessee; J. H. Hutchins, Wisconsin; J. V. Harris, Illinois; W. T. Montgomery, Illinois; E. N. McGary, Minnesota; J. N. Miller, Missouri; D. C. Nicosin, Illinois; George E. Newell, Wisconsin; A. T. Peck, Wisconsin; John F. Pritchard, Wisconsin; L. L. Ratliff, Iowa; C. D. Roome, Canada; A. J. Roe, Illinois; J. W. Sparks, Illinois; A. G. Schloesser, Illinois; T. Stebbing, Wisconsin; J. O. Stanton, Illinois; E. LeRoy Turner, Iowa; H. J. Crumpton, California; J. W. Dawson, Iowa; R. R. De Witt, Illinois; A. C. Donovan, Missouri; A. A. Dye, Missouri; D. T. Douglass, Illinois; R. E. Egbert, Indiana; Wm. Eastman, Wisconsin; Wm. L Everett, Illinois; George W. Frost, Iowa; John M. Furnas, Iowa; M. H. French, Iowa; T. D. Ford, Illinois; M. H. Garten, Illinois; C. H. Guibor, Colorado; H. A. Given, Illinois; E. T. Ingals, Illinois; Henry Jones, Illinois; J. E. Jones, Iowa; C. D. Knapp, Illinois; Thomas Kelley, Illinois; J. C. Lincoln, Iowa; T. P. Lark, Illinois; P. H. Leavitt Indiana; Robert La Grange, Iowa; Wm. T. Leonard, Wisconsin; R. J. Mitchell, Illinois; P. H. McElroy, Illinois; J. A. Masterston, Illinois; Robert McPherson, Illinois; George M. Macklin, Illinois; E. G. Minnick, Iowa; L. W. Thomas, Illinois; I. H. Taylor, Illinois; W. W. Williams, New York; C. A. White, Indiana; F. B. Wood, Michigan; E. B. Young, Iowa.

Ad Eundem—W. S. Baker, M.D., Illinois; Amos Knight, M.D., Michigan; M. H. L. Schooley, M D., Missouri; D. L. Jewett, Illinois.

Honorary—Thomas M. Hess, Illinois; Zaccheus Bass, Vermont.

President J. V. Z. Blaney then delivered the charge to the graduating class:

Gentlemen of the Graduating Class of 1870–71:

You have this evening received the highest honors which this institution has the power to confer. Upon you has been conferred the Degree of "Doctor of Medicine" by the authority of the State of Illinois, and the Board of Trustees of Rush Medical College on recommendation of its Faculty, before whom you have passed a searching examination.

The conferring of this degree, and your acceptance of the diploma which certifies to these facts, invests you with several important privileges which I desire that you should fully appreciate, and at the same time with certain responsibilities which the Faculty of the College would wish fully to impress upon you before you bid your farewell to your Alma Mater.

These privileges are: 1st, that you are each of you endowed by all the influence, and with all the prestige which the College now holds in community, as proper persons to practice legitimate medicine; 2nd, that you are each of you admitted into the ranks

of the Alumni of the Rush Medical College as members *de facto* and *de jure*—an association of which I feel warranted in asserting that, for the number of honorable and of accomplished medical practitioners which its rolls enumerate, cannot be excelled, if equaled by the Alumni Association of any institution of equal age in our country.

The responsibilities, voluntarily assumed by you, by your acceptance of these honors, and of your diploma, are numerous and obligatory. They are comprised in your obligations: 1st. To community, especially to that in which you may fix your residence; in this, that you will, at all times, be in readiness to respond to its urgent calls for your services, and be, as far as your circumstances and abilities permit, prepared in every way to respond to its needs. 2nd. To your profession, that you will use your best endeavors not only to keep pace with its advancement in all its departments, but also to make your own additions to its progress, and above all, that neither by word or deed you will swerve from the paths of legitimate medical science, or permit yourselves to be attracted by the allurements of the pocket, or of temporary success into the paths of empiricism, however bold their pretensions, or however promising their offers of preferment.

The response on the part of the class was made by Dr. C. A. White, as follows:

Mr. President and Gentlemen of the Faculty:

In behalf of the members of the twenty-eighth graduating class of this institution, I am before you to respond to the words which have just been spoken. To us the occasion is one of marked interest and great pleasure; nevertheless, when we come to look forward into the dim shadows of the future, and realize that we never shall again be permitted to assemble together, I imagine certain feelings of mingled pleasure and regret becoming developed within each of us at the idea of being now forever separated.

Here we have met in the capacity of teacher on the one hand, and of pupil on the other. We, of the latter, to accumulate and store up that knowledge which is to be our pleasure, our reliance, and our guide, while attempting to contribute to the welfare of humanity by the ministrations of the bounties of our chosen profession. From day to day, for the past eighteen weeks, we have been accustomed to assemble and re-assemble around the altar of science, within the majestic walls of this Æsculapian temple, to receive, from your laden lips, words of golden truth and meaning.

Here we have become thoroughly acquainted with the anatomical construction of our own bodies, the crowning work of

the Creator's skill. We have seen the framework upon which no pains have been spared to make us perfectly familiar with its wonderful mechanism.

We have beheld, in wonder, the vital current coursing its way throughout the system, carrying with it life and health, and happiness to fair forms and hoary sages. We have been lost in rapt admiration, while gazing upon and contemplating those wondrous organs which constitute man's nervous system, the normal functional activity of which elevates him above the other works of the creation, gives to him supremacy over all the earth, and brings him into the nearest possible relation with the Creator himself.

We have passed the threshold of modern science, and have been admitted into its gorgeous labyrinth, deep down into the earth, midst its salts, its ores, and its precious metals; we have diligently searched each lofty mountain peak, and the broad and fertile vales between; we have been taken upon the eagle wings of science and wafted away through our own atmosphere to that of the sun, of the moon, and of the stars, and into ethereal space, all in one grand search for substances and forces which might be ascertained to possess specific influences over those conditions which we denominate disease.

But man, in his eagerness for knowledge, in his desire to unfold the works of the creation, has not stopped in these places content with those things only which he can realize by his natural endowments, but has developed for himself and brought to his aid numerous modes of investigation and observation, by which he is enabled, in many instances, to unlock the arcana of nature and behold her secrets and mysteries at will.

Thus, assisted by the power of the microscope, and by well-directed, unremitting labor, one of your own number, our worthy Professor Freer, has succeeded in discovering and demonstrating to the medical world an important element of the red blood corpuscle, which had escaped the acute observation of his scientific fathers and contemporaries, both in this country and in Europe. We have seen that, in keeping pace with the onward progress of the present age, the profession has been compelled to cast off much of the older paraphernalia of the healing art, and to substitute modes and measures more nearly in accordance with the teachings of modern science, rendering the profession once more nearly allied to an *actual* science, and less of an empirical art.

And thus, we recognize and welcome the great revolution which has taken place in the profession within the past quarter of a century—a revolution marked in character and of inestimable benefit; marked for the manifest changes which it has wrought by discarding entirely, or by restricting within proper limits, the use of those old-time therapeutic measures, the principal actions of which were those of extreme depletion only. Beneficial, by having

replaced them in many instances by their very opposites, by administering the so-called medicines more sparingly, more judiciously, more scientifically; by economizing the powers of life, by relying more confidingly upon the vis medicatrix naturæ, to whose bidding alone we should respond, and to whose existence alone our efforts should be addressed, never presuming for a moment that human knowledge or skill can in the least improve its perfect works.

As students of nature, then, we go forth from this temple of learning, imbued with a thorough knowledge of the power of proper exercise, of rest, of pure air, of sunlight, of dietetic measures, and with the idea that, as yet, there are but very few, if, indeed any, specific remedies among medicines.

In view of the past, is it in the least vainglorious to suppose or even to predict that similar advances and discoveries, not to say absolute changes, from that which is now considered to be the truth, may take place in our time, and that some one or more of the members of the present class may develop and harness into the work of usefulness some of the yet hidden treasures of nature, thus each becoming a benefactor to the race for generations yet unborn?

The work is a great work. Its importance cannot be overestimated; and yet it is incomplete. We receive it from your hands, not as a finished something, but as something offering many opportunities for labor and observation before all of its secret avenues shall have been sufficiently traversed and all of its secret chambers fully explored. We have seen, 'tis true, that in many respects there is that which already approaches very nearly, or indeed, quite, to perfection; but there still remains sufficient fertile ground yet untilled, in which to spend our time and study most profitably.

> "Labor with what zeal we will,
> Something yet remains undone,
> Something uncompleted, still
> Waits the rising of the sun."

It is our intention, then, to enter the field laid out before us with a just appreciation of its magnitude; with a full determination to do honor and justice to the great cause in which we have become voluntarily enlisted, thereby proving to the world that the profession still exists, that it is self-sustaining, and that it will continue to be developed and grow until all the remotest nations of the earth shall realize and appreciate its beneficent influences in the highest degree of perfection, and join in the universal proclamation that its bounties and benefactions transcend all of man's other works.

At your hands, Gentlemen of the Faculty, we have received the great principles of medicine and surgery, constituting the grand framework of the temple in which our hopes and interests are

completely enwrapped, and which it now becomes our duty to build, to ornament and adorn, each one for himself, in his own capacity, with the brilliant truths and triumphs of practical medicine and surgery. We acknowledge your competency to instruct; we acknowledge the ardor which you have each manifested in our behalf; we accept the numerous truths from your several branches, which, like so many beacon lights, are to guide and pilot us aright throughout our professional lives. We are aware of the responsibility which we owe to you, and we feel the weight of the responsibility which you have entrusted to us. For the lessons received from each of you, for your zeal as our teachers, for the energy which you have manifested in behalf of the entire class, for the confidence which you have bestowed upon us in the act of attaching your signatures to our diplomas, we tender our sincere thanks, and promise to be true to our *Alma Mater*, thus reflecting just and due credit and honor upon your worthy heads. We gladly receive and accept, and will never fail or forget to cherish, our diplomas from this institution; not merely for their own intrinsic worth or value as such, but as tokens from you and your honorable President, that, thus far, we have done well, and that henceforth we have your combined esteem and confidence, ever bidding us God-speed in the vast work spread out before us.

In receiving our diplomas we realize that we are elevated to an honorable position in the ranks of the alumni of this college, who, perhaps, constitute a majority of the working men of the profession throughout the Northwest, whose competency and skill have replaced happiness for grief in many households, and whose rectitude as men and physicians sustain, untarnished, the honor of your cherished institution. The feelings which are naturally generated between teacher and pupil are usually of such a nature as to constitute a firm bond of friendship throughout the lives of the parties. May this be the case with all of us.

And now, fellow-students, having pledged ourselves to be true to the institution which has given us professional birth and honors, let us be true to ourselves. In launching out upon life's waves to do our duty to ourselves and to our fellow-man, we are assuming the greatest of responsibilities. With clear heads and diligent feet we must pursue our course. And though it become obstructed with difficulties, we must not yield, must not turn to the one side nor to the other for an easier way, but with that courage which a consciousness of right and knowledge alone can inspire, surmount all difficulties. Let us go forth with sympathy in our hearts, with firm and unbiased minds, and with willing hands, deserving success and confidence, and we shall certainly command them.

Let us enter the arena of the profession with alone the armament

of determination—the determination to work, to amass knowledge, to do justice, to conquer, to excel—for what should be our watch-word and our cry, if, indeed, it be not Excelsior?

Lastly, let us ever cherish and respect the lessons learned in this institution as our great landmark, so that we may look back with pleasure upon our school-days here, and proudly claim Rush Medical College as our *Alma Mater.*

Prof. Moses Gunn then delivered the Valedictory Address given below:

I was, lately, greatly interested in a copy of a rare old picture called "The School of Anatomy," intended to represent the first human dissection. The mingled sentiments which must have found place in the minds of the actors, in that then strange scene, were forcibly portrayed. Deathlike and expressionless lay the form which but recently had been the temple of the living spirit, and which, by that principle or force, had been actuated to deeds of might and valor, or had been the medium through which sentiments of love, hate and revenge had been manifested. Its deathlike aspect was heightened by the speaking attitudes and countenances of the awed, but intensely interested actors in that then unparalleled drama. The deep mysteries of the wonderful mechanism are about to be revealed. Not even the sacredness of the human form, the image of the great Creator, can longer withhold the overmastering desire for knowledge which has long yearned for the revelations of the analysis about to be made, until the barriers of human prejudice have at last fallen before it. But though mind triumphs over prejudice and directs the inquisitive scalpel in its invasion, still the idea that the ground on which they are entering is holy and not to be pressed with shodden feet, lends to the countenances of the actors a seriousness which adds to, and beautifies their earnestness. Sounding yet in their ears, "the temple of God are ye," they feel that they are entering the holy of holies, and with faces veiled with gravity and hands washed in innocency, they come up to their longed for, yet dreaded work. Strangely beautiful must have been the original scene which the artist has conceived and so successfully transferred to his canvas. Strangely it contrasts with our own rich and varied experience in anatomical research. Unfavorably does it contrast with the degree of gravity and earnestness with which we, at the present day, approach the subject. How little like a modern dissecting room scene! Mature and earnest men, who had already attained to the front rank in their profession, bent intently over that wonderfully laden table. What we now regard as the starting point in medicine, was to them an advanced study. Their starting point was not found in anatomical investigations, but in a strict empiricism. In fact, empiricism underlies the whole chronology of medical

science. The effort to learn by experiment what was salutary, beneficial and curative in diseased and disordered states of the human system, was the first step in what became, in process of time, medical science. This system of empirical medicine, crude, uncertain and oftentimes erroneous as it was, and founded only in that innate disposition to preserve health, prolong life and increase the comfort of existence, led gradually and necessarily to the resultant desire to know the wherefore. The wherefore could only be found through a knowledge of the machine experimented upon, and that was enveloped in sacredness as well as shrouded in mystery. Resort, to study upon the structure and functions of that portion of the animal kingdom which most nearly resembled humanity, was naturally had; and thus the sciences of anatomy and its handmaid physiology, were commenced and attained some development, while ideas of pathology were yet as wild and visionary as the dream of delirium. But gradually and certainly grew the desire for, and love of knowledge. Like that divine sentiment which the immortal poet styles an appetite which grows by what it feeds upon, so the love of knowledge knows no satiety, but ever increasing in fervor and earnestness by additional acquisitions, like the mountain stream its course is ever onward with still increasing volume, till at last it shall be swallowed up in the vast ocean of truth. Thus the early dissections upon the lower order of animal being augmented knowledge and stimulated the desire therefor, till finally the sanctuary of the immortal soul, rendered still more mysterious and awful by the flight of that essence, was fearfully and tremblingly invaded. Solemnly, as if in the presence of the disembodied spirit, which might be viewing the desecration of its former tenement, were those dissections made. Nought, save an overpowering thirst for the especial knowledge revealed by those investigations, could have prompted and impelled them. And when that indifference which is the offspring of familiarity was attained, there still remained that prejudice to overcome which, even yet, is not fully conquered. But the science of human anatomy was established, and that of physiology commenced its vigorous growth, while close upon it followed a knowledge of pathological changes which soon began to take the form of a system. Then commenced comparative studies ranging from the lowest form of animal existence to the crowning work of earthly creations, for the purpose of developing to the highest degree a knowledge of that crowning work. Minute structure at last claimed attention, and the science of optics was invoked to lend its aid in the investigation. Histology of the present day is the result; and the anxious, earnest search after the yet unknown, through the object-glass of the one-fiftieth of an inch focus, with all the appliances and accessions of the modern microscope, only indicates our present status, not that to which we may yet possibly attain.

While this ever increasing scope and extension of study has gradually raised the standard of practical medicine and benefited mankind, it has been charged that its tendency has been towards a materialism which has often shocked spiritual sense and debased moral nature. Without here stopping to consider the truth of this statement, let us glance at some of the theories which have been advanced, and have seemed to warrant the charge, coming as they did from a scientific source, and claiming the merit of a refined philosophy. Not to go farther back than a period within my own recollection of scientific matters, the complacency of mankind in its manhood was not a little shocked by the statement that man had attained his present position at the head of animal existence, only as the last development in a progressive autogeny; that this self-development or plastic force in nature first brought forth the lowest forms of animal life; and that gradually acquiring power, and operating under ever improving circumstances and upon products which were ever advancing toward a higher degree of perfection, grade had succeeded to grade in an upward scale through the vast cycles of time, until mankind appeared upon the earth, the latest and most perfect in the series. That this last and crowning existence, in its individual embryonic life, passed rapidly through all the phases of a development representing successively all the inferior grades. That a constant improvement marked the ever succeeding generations, and that in the dim and distant future, out of the loins of the present type of humanity there might spring an order which should outrank it, as it now does the orang-outang and the gorilla.

Human pride had been well rebuked by the satires of Swift, but the satire was patent; here, however, under the garb of philosophy, was a theory which might well have been taken as a sarcasm more subtle and cutting than the trenchant wit of the eccentric Dean. But such was not its aim. It was put forth as a pure philosophy, and while its author protested against the charge of infidelity, and still spoke of the Creator and creative wisdom, he so shrouded the first great and Adorable Cause in such a mysticism as to be unrecognizable by the student of revelation, even though that revelation had been studied as an allegory with the light of science illuminating its pages.

Perhaps it may be considered by some a work of supererogation to reply to such vaporings, while others may consider a successful reply not within the range of human effort; nevertheless, it may not be amiss to look about us for some firm rock on which to place ourselves; some anchorage sure and reliable where our barque may ride in safety while the storms of a mad philosophy sweep ragingly past us.

Is the scale of animal being graduated with such regularity as to place man at the head, separated from the grade next below

only by a single step or grade? Or, is there between man and the whole of the brute creation a chasm so deep and wide as to justify a faith in the statement that he was created but little lower than the angels? I propose to consider these two questions from stand-points which are more or less intimately related to your professional studies.

1st. From an anatomical stand-point. Is the step or grade from the highest type of the brute creation to the lowest type of the human family only equal to that which marks the difference between the highest, and the grade next below it of the brute creation? or, does the *tout ensemble*, as well as several specific anatomical points, mark a separation so wide as to break the series?

It seems as though there could be but one answer to the idea expressed in these two forms of the same question. There is no fear that the author of "The Vestiges of Creation" himself, would even for a single moment mistake, at the most casual glance, an average specimen of the lowest human type for the most perfect specimen of orang-outang or gorilla. That indescribable impression made by individual presence is so widely different in the two examples, that a willing proselyte to the so-called philosophic creed would stand back amazed at the difference which separates them. In the one he sees, emphasized in every attitude, glance, gesture and expression, only the brute; in the other, he cannot shut his eyes upon that spark of humanity which gives the hope of something beyond and better than the present, which lifts him to the pedestal on which stand, also, hope and aspiration.

But to pass from the whole to constituents; look at the form of the head, and its development, as compared with the face in the two specimens, and here, too, we see a longer step than any taken in the brute series. The length of the superior extremity; the four hands; and the facility, if not necessity, of quadrupedal locomotion in the brute, leaves a space between it and humanity too great to be spanned save by poetic fancy.

2d. From a psychological stand-point. Without denying to the brute creation a mental capacity superior to mere instinct, and even admitting that in some instances the brute may give evidence of a reasoning power that closely approaches true induction, still, in the results attained, he falls so far below the standard of the lowest humanity as to leave even a greater space between them, than that which separated them in anatomical development. The dominion over the "beasts of the field," which was given to man, according to revealed history, is enjoyed by the lowest example of the human race. His mental endowments enable him to construct implements and weapons for their capture, control and destruction. In this dominion, man, even in his lowest estate, proclaims his title to manhood, and indicates the

vast space which separates him from the highest order of brutes. But in the ability to construct and speak a system of language; in the ability to learn and speak the language of other systems than his own; in his power to attain, by intercourse with, and instruction from others more learned than he, to still higher mental improvement, man asserts, incontrovertibly, his immense elevation above all other animal existences. No mere grade in a series is here marked; but a new series, with heavenward tendencies, is established. But it is neither in anatomical nor mental characteristics that the distance which separates man from all inferior orders is most clearly appreciated. Vast as it seems from the views which we have taken, let us proceed to our

3d. Stand-point of moral attributes. It is here that we shall obtain a still more convincing view of the intervening distance that, from our previous two stand-points, we have contemplated as separating humanity from all below it. It is here that we see, sharply drawn, the boundary lines between instinct and reason, because here, in obedience to his moral nature, man subordinates his instincts to his reason. The brute is a creature of instinct alone. Whatever of reason he may occasionally evince is in strict subordination to instinct. Natural instincts control and govern all his actions; and if he reasons at all, it is in furtherance of his instinctive desires. Man has, also, his instincts. Self-preservation, self-gratification, sexual love, hate, and revenge, are instinctive. But not as in the brute does man's reason minister to, and subserve these instincts. On the contrary, these natural instincts are subordinated to his reason; and just as he succeeds in such subordination, does he assert the divinity of his humanity. We sometimes say, figuratively, that a man is a brute; what do we mean by this speech, but that such a man is, to a great extent, following his natural instincts—failing to control them by, or subordinate them to, his reason? There is, probably, no example of humanity however low (unless bereft of reason) which does not, in a greater or less degree, control and govern his instincts. This is the prerogative of humanity. The power to subordinate instinct to reason is absolutely wanting in the brute; in fact, as has been already stated, whatever of reason the brute may have, is the slave to animal instinct. Instinct is the master in the brute, but the subject in man. And man, in his mastery over his instincts, where they interfere with his higher aspirations, asserts his humanity and vindicates his claim to immortality. Whatever belief may be entertained as to my former two positions, whether coinciding with the sentiments which I have advanced, or regretfully distrusting them, it would seem as if there could be no doubt upon this last proposition. It is here that we *feel* ourselves to be more than the beasts which perish. In our love of the beautiful and the true, in our admiration of the mighty and the noble, in

our appreciation of the grand and the sublime, in our conception of the vast and the awful, in our desire to grasp the infinite, in our adoration of the Omnipotent, in our aspirations to a still higher life, we realize our God-given dignity and lay hold upon our heavenly birthright.

From this expression of faith which rises in my own mind from a contemplation of the facts to which I have called your attention, let us recede to a strictly logical conclusion, and ask what they actually prove? To this I reply: They prove that the order of animate being is not an unbroken series of uniform gradation; and, consequently, it affords no evidence of an autogenous force, the assumption of which is based upon such gradation.

This doctrine of an ever operative plastic force, which the author of the Vestiges of Creation believed had first brought forth the lowest forms of animal life, and improving upon its own work by a sort of cumulative energy, and the operation of elective affinities through the long ages of the earth's history until the present grade was reached, of course, regards that force as merely an inherent property of certain forms of matter. It is consonant, if not identical, with the theory of Darwin as to the origin of species; and an earnest advocate of Darwinism, Prof. Huxley, delivered, something over two years since, a lecture entitled "The Physical Basis of Life," which, as is indicated by its title, recognizes the same inherent spontaneous principle, property or force. I mention this effort of Prof. Huxley, not for its singularity—for he is but one of a numerous class of philosophers who entertain, and strenuously advocate, both in season and out of season, similar views—but because it has attracted more attention, both in this country and in Europe, than any other similar paper published for a long time.

Physical basis of life is used as entirely synonymous with protoplasm; and the meaning of the author would not be distorted by the expression: protoplasm is the physical basis of life. Now, if by protoplasm was merely meant a certain kind of material substance or pabulum, which constituted a physical basis or substance necessary to the support of life, a very correct idea would be very capitally formulated. And indeed, the way in which he talks some of the time in this lecture is, certainly, entirely consonant with such a meaning of the term; for example, when he says that "plants can manufacture fresh protoplasm out of mineral compounds, whereas animals are obliged to procure it ready-made, and hence, in the long run, depend upon plants. An animal cannot make protoplasm, but must take it ready-made from some other animal, or some plant—the animal's highest feat of constructive chemistry being to convert dead protoplasm into that living matter of life which is appropriate to itself." He also says: "this present lecture, whatever its intellectual worth to you, has a

certain physical value to me, which is conceivably expressible by the number of grains of protoplasm and other bodily substance wasted in maintaining my vital processes during its delivery."

He contemplates, also, the recourse which he shall have to savory roast mutton, to supply this waste of protoplasm, whereby ovine protoplasm shall become human protoplasm. His fancy, too, dwells upon the pleasure he might derive by supping upon lobster, but for the fear of putting his digestive organs to too severe a test, and thus converting crustacean protoplasm into the human article; and further, his possible shipwreck, and the feeding of lobster upon himself, whereby the compliment would be returned, and Huxley protoplasm become transubstantiated into crustacean protoplasm.

Now, all this might be good orthodox common sense and philosophic physiology. But Prof. Huxley takes good care that we shall have no excuse for so construing it; for he compares the properties of protoplasm and the changes which it may undergo to the changes wrought by the chemist when he effects that combination of oxygen and hydrogen which results in the production of water, and asks, "what better philosophical status has 'vitality' than 'aquosity'?" And again, he says, "If the properties of water may be properly said to result from the nature and disposition of its component molecules, I can find no intelligible ground for refusing to say that the properties of protoplasm result from the nature and disposition of its molecules. But I bid you beware that," he frankly admits, "in accepting these conclusions, you are placing your feet on the first rung of a ladder which, in most people's estimation, is the reverse of Jacob's, and leads to the antipodes of heaven. It may seem a small thing to admit that the dull vital actions of a fungus or a foraminifer are the properties of their protoplasm, and are the direct results of the nature of the matter of which they are composed. But if, as I have endeavored to prove to you, their protoplasm is essentially identical with, and most readily converted into, that of any other animal, I can discern no logical halting place between the admission that such is the case, and the further concession that all vital action may, with equal propriety, be said to be the result of the molecular forces of the protoplasm which displays it. And if so, it must be true, in the same sense and to the same extent, that the thoughts to which I am now giving utterance, and your thoughts regarding them, are the expression of molecular changes in that matter of life which is the source of our other vital phenomena."

I cannot refrain from the remark right here, though, of course, it is not offered as an argument, that, judging by the quality, Prof. Huxley's thoughts on this last named point might very possibly, figuratively speaking, emanate solely from protoplasmic molecular changes on a level with the "dull vital action of a fungus or a

foraminifer," though it is to be hoped that the thoughts of his audience in reference thereto may have had a higher origin; and that molecular change was the instrumental process through which they took, not the cause of their taking, form. I have made a quotation to show you, not only the nature of the mental protoplasm which Prof. Huxley offers, but also, that he does not disguise it by either flavor or condiment. He, evidently, administers his pills without sugar-coating. For this boldness let us sincerely render him our thanks.

The plain unvarnished question which is here forced upon our consideration is as follows: is protoplasm, in virtue of its physical and chemical composition, possessed of an independent organizing force? If so, it may well claim the prerogatives which have heretofore been awarded to vitality. If so, a mass of protoplasm ought to rise by its own inherent and independent energy or force into organizing activity, and assume, unaided, organic form, and display all the phenomena of life. Does it ever do so? Prof. Huxley and the school of philosophy of which he is a bright and shining light, have never shown us a single example of such action, and until they can do so, their protoplasm lacks its physical basis, and their claim is not worth a moment's credence, or hardly a moment's consideration.

The simple facts, that are at present established, are, that the so called protoplasm is a material which living organisms of the vegetable kingdom make by selecting and compounding elements from mineral compounds. This process of making protoplasm by living vegetable organisms, is a function possessed only by them. Art has never duplicated the process. There is no known instance of the elements combining to form protoplasm by their own power or elective affinity; but in every known instance a previously existing living organism seizes upon the elements and combines them to form protoplasm. Protoplasm when thus formed has no power or force by which, unaided, it can rise to a higher dignity; but it may be acted upon by a living organism, or it may fall under the influence of chemical force. If acted upon by the former, it becomes organized and forms a constituent of the organism; if not so acted upon, *i. e.*, if plant protoplasm, separated from the organic plant, or Prof. Huxley's roast mutton protoplasm is not consumed by some animal and thus brought in contact with a living organism, it becomes a prey to chemical force, and by it is resolved into its original elements, which elements may be selected by some plant and reconstructed into plant or vegetable protoplasm. Before protoplasm or protoplasmic elements can take the first step upwards in development, it or they must be selected and appropriated by a living organism; and in every succeeding upward step until it reaches the grade of living organic tissue, protoplasm derives whatever of force it displays from the organism

under whose auspices it is becoming incorporated. being advanced and into which it is However perfectly elaborated protoplasm may be, if left to itself, unaided by the influence of a living organism, it loses whatever of energy or force it may thus far have obtained, and, under the action of chemical laws, begins a downward course. The exceptions to this rule will be found in the ovum of an animal and in the seed or germ of a vegetable. In these instances the egg or seed protoplasm has enjoyed an additional advantage from impregnation, which gives it a power of remaining for a variable period of time in *statu quo* until, under favorable circumstances, it springs into independent, organizing action. If such favorable circumstances should not surround it, chemical force at last overpowers the latent independent spark, and, by its action, sends it down again to the bottom of the series.

But in this endowment of the ovum or seed with a certain degree of independent force, another interesting and important process is seen, which sheds a flood of light upon our subject. For example, the egg of an oviparous animal is a very capital specimen of animal protoplasm. It may be consumed and appropriated by another animal. Prof. Huxley, for instance, may partake of it in lieu of roast mutton protoplasm, and in the changes which it will undergo, and in the support to his exhausted energies which it will afford, it will fully vindicate its title to first-class protoplasm, even though it may never have enjoyed the advantage of impregnation. But what would be its fate, if, under the last supposition, an effort were made to hatch a chick from it? The answer is found in two simple words, viz.—*addled egg*. Where, then, are those properties of this protoplasm which result from the "nature and disposition of its molecules," which Prof. Huxley could find no intelligible ground for discrediting, and which to him stand in place of all vital action? Has not the first rung in his anti-Jacob's ladder broken under the step? and is it not fortunate that it has broken? for he acknowledges that, in most people's estimation, it reaches not to heaven, but to the other place, as Hamlet has it.

But let us suppose that another specimen of egg protoplasm has been impregnated and placed under favorable circumstances for hatching. Mark the interesting and mysterious change! A new being springs into existence, endowed with all the powers of the parent. Whence the force which this mass of protoplasm now displays and which it did not possess before impregnation? Some animals deposit their unimpregnated eggs in places favorable to their development; now if these eggs are not found and impregnated by the male, they soon decay under the operation of chemical law, although they are surrounded by the physical forces which are not only favorable to, but necessary for their development; if, however, the male finds them and performs his function,

they thereby become the recipients of a force through which they spring into energetic, organizing activity. Whence, and what, again I ask, is the force which this mass of protoplasm now displays? It must be acknowledged that, as mere protoplasm, it had it not; nor can it be claimed that the impregnating fluid is protoplasm; and if it were protoplasm, there being only contact between it and the egg protoplasm, and no mingling of the two forms of protoplasm, the vivifying influence which is imparted by the one and received by the other must be regarded as a force which the most perfect form of protoplasm did not, by the "nature and disposition of its molecules," possess. But as impregnating fluid is not protoplasm, the vivifying force must be looked for elsewhere than in protoplasm, notwithstanding the "nature and disposition of the molecules" of that substance. Protoplasm is a good physical basis or material for the support of life; but before it can live and grow it must become vivified from another source than itself.

Another disciple of the so-called new philosophy is Prof. Barker, of Yale College, who delivered a lecture in New York before the American Institute early in 1869, which elicited from the press of the country pretty general discussion. The subject of this lecture was: *The Correlation of Vital and Physical Forces.* Surely this is a pretentious title. To establish a reciprocal and convertible relation between physical forces and that mysterious force which constitutes life, and for which the term vital is so apt an adjective that even the new philosophers themselves continue to use it while denying the quality which it represents, is, certainly, a work which challenges boldness of enterprise and confidence of power. But Prof. Barker's boldness and enterprise are first displayed in an attempt to level vitality down to the grade or status of a physical force. He says: "Every particle of matter within the body obeys implicitly the laws of chemical and physical attractions. No overpowering or supernatural agency comes in to complicate their action, which is modified only by the action of the others. Vitality, therefore, is the sum of the energies of a living body both potential and actual."

Now, is it true that the matter of a living body obeys implicitly the laws of chemical and physical attractions? If so, what law of attraction does the matter of a dead body obey? Certainly the matter acts very differently in the two conditions. It is not unrestrained chemical and physical attractions in both instances; and no one can deny that a dead organism is the seat of chemical and physical actions alone. And, if this is true, there must be an overpowering force in the living body which does exert a restraining and controlling inflence over chemical and physical attractions.

The manner and mode of death, and the circumstances which

surround the change from life to death in some rare instances, afford a striking illustration of this fact. For instance, a soldier upon the field of battle, in full health, kneeling upon the right knee with the left foot advanced and firmly planted, while taking aim in this position receives a shot which instantly destroys life, and leaves the body rigid in the position described. Here is the same physical body or substance, vigorously living in one instant, in the next dead. Now let us contrast the changes which begin to occur immediately after death, with those which were in active operation just before. And first let us notice a change which is due to the physical force, gravitation. The fluids of the body begin, in obedience to this force, to settle into the lowest portions; and so far as anatomical structure will permit, they will find their way thither. This hypostatic accumulation of fluids is familiar to all who have had much to do with the cadaver. But while life was present no such gravitation of fluids took place. On the contrary, the blood in the veins below the heart and the lymph in the lymphatics and thoracic duct mounted upwards in direct opposition to the force of gravity.

In reference to this point, Dr. Beal asks: "Does the tree grow away from the earth, or its roots into it, in obedience to the laws of gravitation? * * * * Of course, it will be said that capillary attraction, osmose, and other forces, contribute in a highly complex manner to bring about these results; but every one at all acquainted with the subject knows, that the facts have not been, and cannot be, explained." Dr. Beal might have added that the dead organism of a tree afforded the same physical facilities for capillary attraction and osmose, as did the living; yet, here, these physical forces fail to operate; no sap laden with the elements of plant protoplasm mounts toward the topmost branches.

As to the operation of chemical force, our poor soldier who fell at Seven Pines, under the favoring influence of a Virginia summer, became at once the seat of a vigorous breaking up of former combinations, and a recombination of the liberated elements. But before death these combinations were undisturbed. Elements of tissues and fluids which began to shun one another immediately after death, before that change, had remained in a firm and harmonious combination. Some force must have been present and operative, before death, which *was* "overpowering," and which *did* "complicate" the action of "chemical and physical attractions."

Prof. Barker's "therefore," then, falls to the ground, and vitality is something more than the sum of physical energies. Vitality is not the sum of any energies whatever, but the mainspring and source of those energies. It is the cause of energy, not its manifestation.

Prof. Barker illustrates, or rather adduces instances of, the cor-

relation of physical forces, i. e., their reciprocal relation to one another, as evinced in the conversion of heat into motion and motion into heat; heat into electricity and electricity into heat, etc. He then shows that the various changes going on in a living animal organism under the inspiration of, or in obedience to, vital force, are accompanied by, or result in, the development, simultaneously, of certain physical forces; as for example, heat, motion, and in some instances, electricity. He shows, also, that the brain changes which take place in mental operations, develop heat; and even goes so far as to measure the different degrees of heat developed by different mental operations or conditions. And this he calls a correlation of physical and vital forces! Surely this is correlation with a vengeance! Such a correlation is a correlation which correlates in one direction only. It sounds very much like the proposed division of game between the pale faced and Indian hunters, who together had shot only a turkey and a crow. Pale face says: "I'll take the turkey and you may take the crow; or, you may take the crow and I'll take the turkey." But the copper skin was smarter than Prof. Barker deemed his audience, for he replied: "It's turkey you and crow me all the time." With Prof. Barker, it is vital force developing physical force all the time, with no instance of physical force begetting vital force.

Until the disciples of the new philosophy are able to convert light, heat, electricity, motion, gravitation, and other forms of physical and chemical attraction, one or more, or all of them, into vital force, there can be no proof of a correlation between physical and vital forces. As yet, they have not been able to accomplish this; and we must, for the present at least, continue to procure our new supplies of living organisms by the same old method; each must beget its kind according to methods which have obtained from the beginning. We must wait patiently till the new philosophy succeeds in taking its first sure step in this direction. That accomplished, we can, perhaps, look confidently forward to the time when additional skill and increased facilities will enable them to reproduce extinct forms. Then museums of fossil remains will indeed become *passeé;* for the trilobite, the plesiosaurus, the megatherium, and the mastodon, reappearing under the magic touch of science in all their pristine vigor and beauty, shall lie down together, and a little philosopher shall lead them! Then, forsooth, the millennium of science will have dawned upon a startled world.

Gentlemen Doctors: It may, perhaps, strike you that this lecture is but a dry morsel to offer you on this parting occasion; that the last hour of the session should not have been devoted to the consideration of a scientific subject, but rather have been used for the purpose of giving such sage advice upon general subjects as my experience might warrant. How, for instance, to so deport your-

selves as most surely to insure professional success. I confess that I should shrink from grappling with this subject. Professional success will depend entirely upon your individual selves; upon your individual adaptiveness to the discharge of professional duty; and according to this adaptiveness, will the degree of success to which you may attain, be measured.

The parting injunction, which, above all others, I would lay upon you, is expressed in these four words: *endeavor to deserve success.* Your endeavors in this direction must relate to the earnest and thoughtful cultivation of science; to the diligent and honest discharge of your duties to your patients; to the equally honest, and, sometimes, fearless performance of your duty to community.

Thus far, it is probable, that you are all debtors to the world, having received from, more than you have been enabled to render to, your kind. I know of no one thing more healthy in its influence upon individual character than a full appreciation of this fact, if it stimulate to efforts to transfer the balance to the credit side of your account.

And, gentlemen, when finally you shall

> "Wrap the drapery of your couch about you
> And lie down"—

in your last, long sleep—that your account shall show that you have lived for the betterment of the world, is the earnest hope of your Alma Mater.

After the valedictory, Dr. A. L. Buchan, of Wisconsin, stepped forward, and, in a very impressive speech, presented an elegantly carved armed chair to Professor Rea, lecturer on Anatomy.

The chair is made of elegantly finished black walnut, of beautiful, easy-chair design, with carved skulls upon the arms. Professor Rea, at the close of the presentation speech, responded in the following manner, his remarks being received with applause both loud and long:

There left this institution at the end of the session of 1866–7 a class that I have always regarded as the best we have ever graduated. But now, I think, all things considered, looking at everything, I think that will have to step aside, and the class of 1870–71 take its place. For you will be pleased to learn, that we reckon students here as they are anatomists, the time having passed when anything else was counted. Here

> Anatomy makes the man, the want of it the fellow,
> The rest is but leather and prunella,

and dog leather at that, with a slight mixture of ipecac, oxytoccia, waxed ligatures and "what's the matter." This beautiful testi-

monial, gentlemen, takes me quite by surprise, so much so that I fear I shall forget the speech I had prepared for the occasion. You have noticed, perhaps, that *my* speechmaking depends very much on my *subject*. When I first saw this splendid thing approach, you will excuse me if I felt a little "chairy," for it seemed to me there was some "skullduggery" about it.

In the selection of this beautiful, durable and valuable memento, gentlemen, you have aptly embodied the suggestion that the many years I have stood for anatomy in this institution, is rapidly bringing me to that point of time in which your elegant gift will become more and more necessary to my comfort. Be assured, I prize it more than any present I ever received, and shall keep it among my choicest treasures, not alone on account of its intrinsic value, but of the peculiarly pleasant circumstances under which it is received; and when the gray hairs and tottering steps shall call more loudly for longer recesses from labor, pillowed in these soft cushions, embraced by these kindly representatives of your strong and generous arms, my hands resting on these artistic emblems of our past associations, one of the happiest thoughts of these hours of sweet rest will be that it came from the magnanimous hands of the class of 1870–71.

Gentlemen, I thank you.

President Blaney then announced that he had resigned his position as head of the faculty, and that at the recommendation of the faculty, the trustees had appointed Prof. Joseph C. Freer to fill the vacant position. The new President delivered a short address on being inducted into his chair.

A prize of $25 was bestowed on Dr. W. T. Montgomery, of the graduating class, for the best anatomical preparation.

This premium was offered by Chas. T. Parkes, M.D., the Demonstrator of Anatomy. It is but justice to the several competitors to say that the Committee of Award paid a high tribute of commendation to all the specimens of the work brought up for inspection.

The benediction was pronounced by the Chaplain, and the "Commencement" of 1870–71 was *fait accompli.*

Cook County Hospital. Reported by CURTIS T. FENN, M.D., Chicago, Ill.

Nov. 22. Surgical. POWELL. Case 1. Dislocation of the outer extremity of the clavicle—an exceedingly rare accident. Rheumatic patients sometimes had such displacements, but usually on both sides. A force capable of producing a dislocation like that would cause a fracture in ninety-nine cases out of a hundred. The extremity of this bone is movable. If rheumatism had been the cause, it would have been held firmly. The books stated that this dislocation was easily reduced, and held in place; but experience showed that little could be done. Shortening, from displacement or fracture of this bone, was of small moment. The indications for treatment were the same in dislocation and fracture. The old figure-of-eight bandage would be found to be the best, after a trial of all the other apparatuses for keeping the bone in place. In unruly patients and children, and in cold weather, the broad adhesive straps, first suggested by Prof. Freer, for such cases, ought to be used.

2d Case. Syphilitic disease of different types. Chancre nine months ago. A marked combination now of two or three different diseases, rupia being the principal. Syphilitic cachexia developed. The mucous membrane of the mouth covered with white patches; the skin white. The development was from the soft structures. It was secondary. He was anæmic, and exceedingly debilitated.

Ques. Was there anything having a tendency to increase the plasticity of the blood?

Student. Ans. Quinine and iron.

Yes; iodide of potassium would not do. We should select such preparations as could be taken. The elixirs of the shops contain little iron. Iron by hydrogen in pill answered exceedingly well; after a while iodide of potassium, with a tonic mixture. If it should be necessary, the following formula would do well: ℞. Pot. iod., ʒiv; Hyd. protiod., gr. iv; Aquæ, fʒiv—vj, M.

We should remember that the tendency of syphilitic disease was to cure itself. Such cases were not ordinarily received; but, if this patient was allowed to remain, he would be shown to illustrate the effect of tonic treatment in syphilis. Sleeping with

that person might be productive of constitutional disease without the primary.

3d Case. Pistol shot wound of the chest. There was crackling in the cellular tissue; so the lung must have been wounded. On auscultation, bronchial breathing was discovered; so there must have been a little solidification. Inflammation had not been kept down by Norwood's tincture, tartarized antimony, or any such thing. The house surgeon had amused himself by poulticing the flesh wound.

4th Case. Necrosis of the spinal column. Disease traced to an injury. Matter had worked its way into the cavity of the chest. A pathological specimen of necrosis of the spinal column and angular or Pott's curvature; no lateral curvature; destruction of the body of one vertebra; processes not at all affected. The effort of repair often began by anchylosis of the transverse processes. The resulting paralysis was easily accounted for. The cord had been pressed upon; or, it had been bathed in pus and subjected to myelitis. The bodies of several vertebræ are usually eroded by pus. Nature effected a cure by anchylosis above and below. Treatment: Rest; taking the inflamed surfaces away from each other. There had been several such cases here. When post mortem examinations had been made, it had appeared perfectly surprising how such changes had been endured.

Pathological specimen. Sack of hydrocele. The testicle occupied the inferior and posterior portion of the sack. It was remarked, that we should not desire the obliteration of the sack, for the function of the testicle would be destroyed by this means. We should tap the sack low, passing the trochar upward, and avoiding the testicle; should allow the fluid to pass out, and should inject a gently stimulant fluid: the best was a solution of iodine, twenty grains to the fluid ounce. The tissues were offended by the injection of anything foreign, as warm water. Tinctures should not be used, for alcohol was a poison to the tissues. It was intended the next time such a case presented, to use the battery and electricity. On the sack being opened, fluid ran out, a little turbid. There was a beautiful, serous membrane, perfectly clear and clean. How to establish a rate of absorption equal to that of effusion, was the question.

Nov. 29. Medical. Ross. Pleurisy, with effusion and tuber-

culosis. Treatment: Poultice and small blisters, cod liver oil, and ferruginous tonics. The effusion would be absorbed better by such means at first, but after a while he should give fifteen grains of chlorate of potassa with the iron.

Surgical. POWELL. 1st Case. Club-foot. Subcutaneous division of the tendo Achillis several days ago. The patient not seen again till now. After the division, we should take hold of the foot and straighten it. A surgeon in Philadelphia broke the tendons and bones. We should keep the foot well in place, or the operation would amount to nothing. When the splint was applied the case was just begun. The object should be to get the patient to stepping on the sole of the foot; after that was attained, the case would improve constantly.

2d Case. Deep abscess of the lower jaw. There might be simply a collection of matter. A probe was passed in different directions, but did not come in contact with dead bone. It illustrated what should be done with deeply seated abscesses, whether lumbar, psoas, or simple. They should be opened freely at first, and afterwards treated antiseptically. As a consequence of neglect, here the matter had spread all over the cheek. We should examine this case again with interest. It would not do to poultice a thing like that too much.

3d Case. Epileptiform neuralgia, or tic douloureux of Trousseau. These cases formed a class of very great interest. There were two forms of the disease. 1. Non-convulsive. 2. Epileptiform. The first having no twitching; the second characterized by spasmodic movements of the muscles during the paroxysm of pain. Both forms always affected the terminal branches of the fifth pair of nerves only. The second branch, or submaxillary, was most frequently the seat of disease. He had first seen this case in 1867. It began in 1865. On entering the office, the man would sit down quietly, perhaps, then jump and grasp his head, and run around the room, apparently in great agony. The paroxysm would cease in a moment, when he would sit down again, and await its return sooner or later. If he talked or got cold, the fits became worse. They were aggravated by cold or damp weather. This was epileptiform neuralgia. The atrocious neuralgias, as Gross called them, were always epileptic. There is a disease called the tic, akin to St. Vitus' dance, in which the convulsion is in some of the terminal

branches of the fifth, but without pain. In this case, the pain started from the region of the right mental foramen, and ran forward. All that was done then, was to divide the nerve at the mental foramen, and to tear out or exsect one inch of it. The pain ceased instantly, and stayed away for six months. This patient had previously received an incision from the temporal muscle to the lower part of the face, but it had done no good, for it had not touched the nerve. At the end of six months, he came back as he (Dr. P.) was going East. Probably, at that time, the jaw should have been trepanned, and the nerve still further removed. A little dental instrument should have been passed into the canal, and the nerve twisted out. But in the winter of 1867-8, a section of his jaw was removed. One year later this patient again returned. He went to the hospital and was operated on. The bone was found to be too friable for another resection, so the back portion of his jaw had to be disarticulated, and removed entire. Thereafter he remained free from pain one year and a half. But it has returned. Three weeks ago the pain came back severely, characterized by the former symptoms. He cannot describe it. (The patient being called on, stated he suffered so intensely at times, that his mouth became filled with blood without his being able to discover where it came from. At this point, a paroxysm occurred, apparently induced by mental excitement.) Only two things gave any prospect of relief: 1. Opium. 2. Division of the nerve. Trousseau, after a practice of over thirty years, said that he had never seen a case radically cured. But he was a physician. Perhaps the surgeon, by repeated exsection of the nerve, may effect a cure. It was the worst disease in existence. We should reflect on this case. The pain now had its seat in a fibrous band, taking the place of bone which was exsected, and in the end of the remaining jaw. The points to be remembered were, how to locate the disease, and to make a diagnosis. Then we should not be able to promise a great deal.

4th Case. Stump of leg. Re-amputation. Several causes. 1, projection of an angle of the tibia, making it difficult to adapt an artificial leg; 2, tissue drawn too tightly, increasing the danger of ulceration; and 3, dead bone. The operation should be performed as though it were the first. Assistants should always anticipate the wants of a surgeon. Chloroform administered.

The stump elevated to get as much blood back into the body as possible.

Dec. 2. Pathological. JOHNSON. Cirrhosis was not common in those who had hypertrophy or dilatation of the heart. Organs exhibited: *Heart*, weight, 14 oz. 5 dr.; *Spleen*, weight, 2 oz. 3 dr.; average weight, 7 oz., indicating a failure of nutrition. *Kidneys*, weight, 4½ oz.; normal weight, 4 to 6 oz. The surface is granular and mottled, the cortical portion reduced to a mere line in thickness. There was atrophy of the true secreting structure. The conducting structure normal. *Query.* Were the heart changes causes or effects? *Lungs.* The left adherent to the diaphragm, therefore there had been more or less of pleuritic inflammation. Certain conclusions might always be obtained during life. 1. Whether the heart was enlarged. 2. Whether hypertrophy preponderated. 3. Whether dilatation prevailed.

Surgical. POWELL. 1st Case. Fracture of the leg. Both bones united, though it had been slowly. The ankle was slightly stiff. If a starch bandage had been put on at first, the leg would have been concealed from view, and the ankle a good deal stiffer. A starch or plaster of Paris bandage should be applied, now, only to prevent accident and to encourage the patient to get out. He had been an extremely intemperate man, verging on delirium tremens when admitted. There had been no effort at repair of bone during the first four weeks.

2nd Case. Delirium tremens and fracture; admitted after a spree. Instead of trying to quiet by opium, they had sickened him by calomel and afterward tartarized antimony. This treatment was applied where opium had failed. Reference to the kind of splint needed. This person was very nervous, a mild form of the disease from an excess of stimulant. A little starch should be employed to prevent his getting the splint off. We should starch both the pad and the bands. All splints should be well padded. Simply rolling them with a bandage was not enough.

Foreign Correspondence.

GLASGOW, Scotland, January.

EDITOR CHICAGO MEDICAL JOURNAL:

Dear Sir—Medical education at home, is very different from that in England, and with your concurrence, I would like to lay before your numerous readers something of the mode of "making doctors," as I saw it in London.

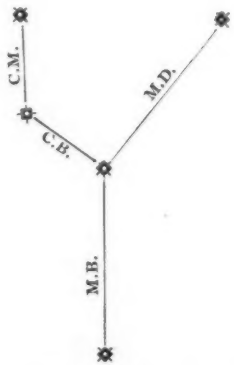
The first hospital I visited, was St. Bartholomew's, and as I passed through the gate I inquired for some one that would give me information concerning lectures, clinics, and ward-visiting, and the porter directed me to *Mr.* Marant Baker's door. I found his door and was soon ushered into his presence. at first supposing he was secretary or some such functionary, because he was called *Mr.* instead of *Dr.* Baker. Imagine my surprise, to learn, subsequently, that he is one of the assistant surgeons of that hospital —has a ward in it as Professor of Physiology and Pathological Anatomy in the school connected with St. Bartholomew's, and has revised some work on physiology, and yet is called *Mr.* Baker! I looked over the list of the medical faculty for his school and found some of the gentlemen's names preceded by *Mr.* and the balance by *Dr.* At home, all faculty names have the Dr. before or the M.D. after each one.

This new idea led me to inquire "why the difference?" and the answer "In England, all *Physicians* are called *Doctors*, and all *Surgeons* are called *Misters* (properly *Masters*)" determined me to look up the subject of medical education more fully, and the results I herewith transmit: I *may* make some slight misstatements, but in the main I think you will find me correct.

In the United States, physicians and surgeons are educated together from their first readings till their graduations. In England, they are in the same classes only a portion of the time; beyond that time they may be said to be separately trained. All surgeons' signs and doorplates have the name preceded by Mr. and followed by "Surgeon"—*e. g.*, "Mr. J. H. Smith, Surgeon;" Prof. Erichsen's doorplate reads simply, "*Mr. Erichsen.*" If a man be both physician and surgeon, then he has it "Dr. ——, Surgeon."

Four years' study and hospital walking, followed by a satisfactory final examination, give a young man the degree "*Bachelor of Medicine.*" Both physicians and surgeons must take this degree, and they remain in the same classes, attend same lectures, clinics and wards, till this degree is obtained. Subsequently, the physician can take his M.D. degree, by two years' attendance upon hospital work, and a required examination, thus consuming *six years* in acquiring a degree, that, at home, is to be had by three years' work. The surgeon, after obtaining the M.B. degree, must take the *Bachelor of Chirurgery* degree, and this is to be followed by two years in surgical wards in hospitals before he can take his *Master of Chirurgery* degree; when he has that degree, then he is "Surgeon," and not till then.

Finding out these points revealed to me, how it is, that six years must be spent in acquiring a physician's or surgeon's degree. Very many of the profession never go any farther than the M.B. degree, for with that they can practice medicine and collect fees in any of the British possessions. Ambitious men, however, get the M.D. or C.M. degree and run the gauntlet at the Royal College of Surgeons and Physicians, and at Apothecaries Hall for the Members' and Fellows' honors there. The following diagram may serve to illustrate the two paths pursued by M.D.'s and C.M.'s:



Both occupy six years. The principal part of studying comes in the first four years, and I have been at some pains to so arrange it, that it can be easily seen, what a young man has to go through with, in order to get even his first degree, M.B.

Before beginning his studies, the young man must see that his name is entered on the books of the Medical Registrar, giving notice where he intends to study and attend lectures. Four times annually must he report to the registrar, give an account of himself, and see that his name is

"entered" on the books. It is for the student's own interest to see to this registration business, otherwise, that functionary's certificate not giving enough time to the young man's studies to suit his examiners, will not admit him to the examinations, and he must wait over long enough to make up for lost time with the registrar reporting to him quarterly.

The M.B. examination is divided into two parts, viz.: "*First* and *Second* M.B. Examinations," and they are two years apart. The first requisite to the *first* examination, is a degree in *arts* at some university—and if the required piece of vellum cannot be produced, then the young man is at once examined in the branches necessary—Greek, Latin, mathematics, natural philosophy, elementary chemistry, English language and literature, history, and one modern language, German or French. This examination must be passed immediately after registering. In one year from that time comes in another examination, called the "Preliminary Scientific Examination," and consists of a close questioning in the sciences—chemistry, botany, optics, etc. Then follows another year of professional studies and hospital walking, following which, is the first M.B. Examination, and here the student must produce certificates to the following effect:

(a) Of having completed his nineteenth year.

(b) Of having passed Preliminary Scientific Examination.

(c) Of having attended a full course of lectures on three subjects from the following list: Desc. and Surg. Anat.; General Anat. and Physiol.; Comp. Anat.; Path. Anat.; Mat. Med. and Pharm.; General Path.; Gen. Therap.; For. Med.; Hygiene; Midwif. and Dis. Children; Surg.; and Medicine.

(d) Of having dissected, two winters.

(e) Of having attended a course of Practical Chemistry in the laboratory.

(f) Of having attended to Practical Pharmacy.

And he is examined in the following: 1. Anatomy; 2. Physiology; 3. Materia Medica and Pharmaceutical Chemistry; and 4. Organic Chemistry.

This examination, like most of them, is followed by an "Examination for Honors," and the candidate who evinces sufficient merit, in the estimation of the examiners, in one or more of the

above four subjects, receives a prize of forty pounds ($200) annually for the subsequent two years, in quarterly installments.

In two years from the first M.B. examination, comes the second, and no candidate shall be admitted thereto, unless he have produced certificates to the following effect:

(a) Of having passed the first M.B. Examination.

(b) Of having, subsequently to the first M.B. Examination, attended lectures on two subjects from the preceding list, not previously attended.

(c) Of having conducted *twenty* cases of labor.

(d) Of having attended for two years, surgical practice of a hospital, with clinical instruction and lectures on clinical surgery.

(e) Of having attended medical practice of a hospital two years, with clinical instruction and lectures in clinical medicine.

(f) Of having subsequently attended to practical medicine, surgery or midwifery, with special charge of patients in a hospital, infirmary or dispensary, for six months.

(g) Of having attained proficiency in vaccination.

The candidate is examined in the following branches:

1. General Path.; General Therapeutics and Hygiene. 2. Surgery. 3. Medicine. 4. Midwifery. 5. Forensic Med. 6. Medical and Surgical Anatomy. 7. Path. Anatomy. 8. Path. Chem.

After this examination also comes one for honors, and the successful candidate receives $250 annually for two years. Here the young man may stop in hospital work, and "locate" and practice so long as he lives—*never* be an M.D., and yet practice medicine and be upheld in courts of law and compel patrons to pay fees. No one, however, can practice here, be he anything whatsoever in the line of a quack, without the Bachelor of Medicine degree. I learn that homœopathists throughout England are *properly* educated, *first*, and preserve their regular diplomas for emergencies.

Supposing, however, the candidate wishes to continue work and study surgery. His next step will be to pass the examination for Bachelor of Surgery, and if he can meet the requisitions, he can present himself for this trial within three weeks after having passed his second M.B. examination. He must first present certificates to the following effect:

(a) Of having taken the degree of Bachelor of Medicine.

(b) Of having attended a course of instruction in operative surgery, and of having operated on the dead subject.

Passing this examination makes the candidate a Bachelor of Surgery, and in two years thereafter, he can present himself for the final gauntlet, and must present certificates to the following effect:

(a) Of having taken the B.S. degree.

(b) Of having, thereafter, attended for two years, to clinical or practical surgery, in a hospital or medical institution.

(c) Of moral character, signed by two persons of respectability.

He must pass examination on the following:

1. Logic and moral philosophy; names, notion and propositions; syllogism, induction and subsidiary operations; the intellect; the senses; the will, including the theory of moral obligation.

2. Surgery.

If a young man wishes to pursue medicine instead of surgery, he begins work with that point in view, soon as he has become Bachelor of Medicine, and the requisites to obtaining the degree of M.D. are, *two* years in a hospital, attending to clinical or practical medicine, followed by an examination the same as the candidate for the Master of Surgery degree passes, with the exception of substituting *Medicine* for *Surgery* in the items of questioning.

The first thing that greatly impressed me in learning the above facts, was, the exceedingly large proportion of hospital work that is necessary to obtaining *any* degree. *Nine-tenths* of the studies are inside the wards and amphitheatres.

Almost every school is connected with some hospital, and the didactic lectures are delivered within the hospital walls. Students here go from the lecture-room to the ward or amphitheatre without putting their caps on even, in many schools following their teacher, and seeing, on the patient, what the lecture has prepared them for. Post mortems are witnessed at any time without going a half mile for the privilege. In Guy's, students—*each one*—must, among other certificates, bring forward one to the effect, that he has made the post mortems of the hospital under the direction of the demonstrator of anatomy, for the space of *three months.*

All operations, lectures and clinics for the day, are advertised on the "board" hanging up by the outside entrance, and almost daily, some operation is performed. On one day, I saw at one sitting, Sir Henry Thompson cut for stone in one patient, crush a stone in another, Prof. Erichsen remove two cancers from breasts, and Prof. Jno. Marshall operate on a necrosed tibia, in the operating amphitheatre at University College Hospital.

The method of studying physiology, as I saw it in the Univ. Coll. Hosp. school, charmed me. I find it is entirely the fashion in all the English and Scotch schools to study this branch similarly, viz.: in *laboratories*, practically, just as chemistry and pharmacy are studied. It is not compulsory, to pursue it thus—it is wholly optional, but nearly all have the good sense to avail themselves of facilities thus offered. Students pursuing physiology in the laboratory are supposed to know anatomy well beforehand, and are thus prepared to, intelligently, take the first step in this work, viz., use the microscope. Every tissue is carefully examined, and the eye so trained, that future examinations reveal no guesswork on the part of students. The mechanism of microscopes is *first* taught by Jno. Hughes Bennet in his laboratory, and *then* the *tissues*. The instruments are furnished by the school, and magnify from fifty to five hundred diameters. Subsequently, is taught practical experimental philosophy, including experiments on animal electricity, contractility, excitability, pulsation, vision, voice, heat, respiration, etc., etc., with the aid of modern instruments, such as the galvanometer, kymographion, sphygmograph, myographion, ophthalmometer, laryngoscope, thermometer, spectroscope, etc.; analysis of morbid and healthy urine, of blood, bile, bone, etc., are carefully taught.

For purposes of investigation and experiment, guinea pigs and frogs are kept constantly on hand. The former are generally kept in great numbers, being bred and kept on the school premises, by most schools. Frogs are imported from Germany, English specimens being too small.

The private laboratory of the professor is a perfect forest of small and large bottles and jars, containing tissues preserved in alcohol, of all parts of the body, human and animal.

The dissecting room is generally a very quiet place, no talking

by students being allowed, except with the professor or demonstrators; of the latter, there are usually not less than four, and work can be carried on with little or no interruption by waiting for some one to assist the students. I had a particular desire to see the room, in Edinburgh, wherein the female students had so fearfully shocked the young Scotchmen, by dissecting the genitals in their presence, and caused thereby such an overflow of virtuous indignation and rude behavior to be shown by those young lords of creation. I accordingly went to it and found about sixty men at work so quietly, that one would think them all dumb. They were in two rooms, aggregating in area about the same as Rush College dissecting room; Prof. Turner and his assistants were among the students, showing and directing them. On the walls are hung "Rules for the dissecting room," notifying the students that a limited number of days is all they can have to dissect each subject in, *e. g.*, four days the subject will be kept on the back, before opening the chest and abdomen; two days allowed for examining viscera; three days with subject on face; two days for position for lithotomy; so many days for something else; consuming about fourteen or sixteen days in all. The cadaver is *turned* at the day appointed, per rules, whether it is dissected or not, and at the end of the fourteen or sixteen days the table is cleared.

During the first four years of professional studies, the classes are "graded." Studies—certain ones are "recommended" by the faculty for each year and these "recommendations" are the means of so thoroughly dividing first year from third year students, that the former are rarely seen in lectures on subjects "recommended" for the latter. No lecturer has at any one time, over two hundred and fifty students in the school at Edinburgh, where there are over *six hundred* students in all.

Medical books in London are not cheaper than at home, some of them cost *more*. We have to pay here in gold, and at home most of the books can be had for as many dollars and cents in paper currency. Nearly every man connected with a hospital, whether a professor or assistant, has edited or revised some work, and the endless array of professional works one sees in publishing houses and bookstores exceeds anything that ever I saw in that

line. Surgical instruments cost more here than in the United States.

Medical students here, as a rule, are in better circumstances, financially, than those at home. Remaining in hospitals so much of the four years as they are required, necessarily takes a good deal of money, and a poor man cannot afford it. A large proportion of the students take their degree in arts at some college and can easily afford it. Upon the whole, fees are higher than in the United States. *Everything* costs more here in medical schools; and physicians' and surgeons' fees are higher than with us. They charge a guinea ($5) for looking at a man.

Yours, etc., J. H. ETHERIDGE.

Editor's Book Table.

[NOTE. — All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN & COOKE, whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

The Change of Life in Health and Disease: A Practical Treatise on the Nervous and other Affections Incidental to Women at the Decline of Life. By Edward John Tilt, M.D., etc., etc. From the third London Edition. Philadelphia: Lindsay & Blakiston, 1871; pp. 292; $3.

A Treatise on the Chronic Inflammation and Displacements of the Unimpregnated Uterus. By William H. Byford, A.M., M.D., etc., etc. Second Edition, enlarged; with numerous Illustrations. Philadelphia: Lindsay & Blakiston, 1871; pp. 248; $3.

First Medical Report of the Boston City Hospital. Edited by J. Nelson Borland, Physician; David W. Cheever, Surgeon. Boston: Little, Brown & Company; 1870; pp. 688; with Illustrations.

PAMPHLETS RECEIVED.

American Association for the Cure of Inebriates. Proceedings of the First Meeting, held in New York, November 29 and 30, 1870.

New York State Inebriate Asylum, Binghampton, N. Y. Annual Report of the Superintendent and Physician, for the year 1870.

Braithwaite's Retrospect of Practical Medicine and Surgery: Part LXII; January, 1871. Uniform American Edition. New York: W. A. Townshend & Adams, publishers; $2.50 per year; single No., $1.50.

The Half-Yearly Abstract of the Medical Sciences. Being a Digest of British and Continental Medicine, and of the Progress of Medicine and Surgery, and the Collateral Sciences. Edited by Wm. Domett Stone, M.D., F.R.C.S. (Exam.) Vol. LII, January, 1871. Philadelphia: Henry C. Lea, 1871; $2.50 per annum; single volumes, $1.50.

Catarrhal and Croupous Inflammations of Mucous Membranes. By Samuel G. Armor, M.D., Professor of Principles and Practice of Medicine, in Long Island College Hospital, Brooklyn, N. Y.

On the Cellular Structure of the Red Blood Corpuscle. By Joseph G. Richardson, M.D., Microscopist to the Pennsylvania Hospital, Philadelphia, Pa.

Transactions of the American Ophthalmological Society. 7th Annual Meeting. Newport: July, 1870; pp. 151.

No. 5. *University Series, Scientific Addresses.* By Professor John Tyndall, LL.D., F.R.S., Royal Institution: 1. On the Methods and Tendencies of Physical Investigation. 2. On Haze and Dust. 3. On the Scientific Use of the Imagination. New Haven, Conn.: Charles C. Chatfield & Co.; 1870; 12mo, 25 cts. series; nearly monthly. Five successive Nos., in advance, $1.10; ten successive Nos., in advance, $2.

Editorial.

Retirement of Professor Blaney.

James V. C. Blaney, M.D., incumbent of the chair of Chemistry since the organization of Rush Medical College, has resigned the position and has accepted from the Board of Trustees the Emeritus Professorship of the same branch.

Prof. Blaney has been induced to take this course from the large and increasing demands made upon him for his services in the practical application of the science in analyses, assaying, etc., which the state of his health, permanently impaired by his arduous labors and exposures while in the army, precluded his attending to in addition to the onerous duties of his chair.

Whilst we cannot but regret to lose the daily active co-operation of Prof. Blaney as a colleague, we are rejoiced that his unsurpassed practical skill as a chemist is meeting with deserved reward from that portion of the public which needs exquisite skill in this beautiful art.

The Alumni of the College will be pleased to hear that Prof. B., in accepting the Emeritus Professorship, still shows his attachment to the College and his earnest wishes for its continued prosperity.

It is needless to say that wherever he is known he is honored for his varied and profound scholarship, and, better still, is beloved as a whole-souled, high-minded, generous-hearted, courteous and genial gentleman.

Practical Chemistry.

Prof. Henry M. Lyman, M.D., who succeeds Prof. Blaney in the chair of Chemistry in Rush Medical College, is now busily reconstructing the laboratory of the building for the purpose of giving practical instruction in his department during the interval between the annual regular sessions. Every appliance for successful prosecution of this important and interesting branch of study will be afforded to students, and facilities which will hereafter render it entirely unnecessary for them to seek other cities, or foreign countries, for perfecting themselves in its practical details.

During the session which has just closed, Prof. Lyman has developed a success in experimentation, a clearness and systematic precision in exposition, a scholarly and thoughtful method, combined with a pleasing style as a lecturer, which have, collectively, surprised all but those sufficiently intimate with him to have become already aware of the strength and vigor he had acquired by long continued, earnest and industrious culture of excellent native powers of mind.

We write these words, not from the merely friendly spirit we naturally feel for a colleague, but because they are eminently merited, and we wish the Alumni of "Rush," and all interested in its welfare to know that we believe the place, so long and honorably filled by Prof. Blaney, is now occupied by a gentleman every way worthy of their confidence and high appreciation.

Clinics.

The daily clinics at Rush College are rapidly rising to high importance and interest. The average attendance of patients at the medical clinic, we are informed, ranges from thirty to fifty. The gynecological clinic, on Thursdays, and the surgical, on Saturdays, are proportionately equally well attended.

It is not more than the facts warrant, to say that the facilities for clinical instruction now possessed by the College, and available throughout the entire year, are not only equal to all the wants of students, but unsurpassed in every element of variety, importance and practical advantage by any other similar institution in the large cities of the continent. *En passant*, we must be permitted to say that, in this age of the world, medical colleges elsewhere than in large cities are anachronisms which it would be better for the profession to discountenance, than to seek its elevation by the doubtful agency of protective legislation. What the profession requires for its protection is knowledge—knowledge gained by actual use of the senses, by experiment, by demonstration. The day of dogmatism, however eloquently expounded, is past.

An Important Discovery.

During the beginning of the present winter, Dr. R. Dexter, of this city, discovered in his numerous dissections in comparative anatomy, that the spinal cord in the deer, antelope, and some

other animals, was mostly if not entirely protected from concussion by an unusual deposit of fatty cellular tissue, instead of aqueous fluid, which was continuous throughout the entire length of the spinal canal and membranes, and not heretofore mentioned. Since his first discovery he has made numerous other dissections, all of which tend to verify his former conclusions. It has stimulated several medical students to work in the same field, hence the necessity of a somewhat premature announcement. This discovery adds another link to the Darwinian chain. *Com.*

We understand that Dr. Dexter has been devoting large attention to comparative anatomy, especially that of the brain and spinal cord. *Palmam qui meruit ferat.* Further confirmation of his observations will be looked for with much interest.

Chlorate of Potash, etc., in Diarrhœa and Dysentery.

H. W. Richardson, M.D., of Woodstock, Ill., writes us that during the last season he treated some seventy-five cases of both diarrhœa and dysentery, with rapidly successful results, by the following method:

"No. 1.

℞. Potassæ Chlorat., - - - - ℥j;
Acet. Tinct. Opi., - - - gtt. v—x;
Tinct. Camph., - - - - - ℥ss;
Aq., - - - - - - - ℥ij;

M. Sig. A teaspoonful every hour or two, as needed, to control the bowels.

To strengthen and improve the digestive organs, and aid digestion:

No. 2.

℞. Baudalt's Pepsin, - - - - ℥ss;
Bicarb. Soda, - - - - - ℥j;

Mix by trituration, and add—

Brandy, Water, - - - - ää ℥ss;

Sig. 20 drops in food every three hours.

No. 3. For Diet. When the child gets q. s. healthy mother's milk, don't change—otherwise use—

℞. Beef and Veal, - - - - - ää ℥ij.

Boil four to six hours in a quart of water; add a little salt; skim when cold. Mix this with equal parts of cow's milk and water. 20 drops of pepsin mixture added to one-third teacup of this diet,

and given to a child one to three years old, every three hours, will usually digest.

N. B. If patient is feverish, add to No. 1, Tinct. Gelsem. ʒss, or Tinct. Aconite, gtts. v to viij. The discriminating practitioner will understand how to vary the above formula to suit age and circumstances."

Explanatory.

A very large proportion of our subscribers are alumni of Rush Medical College, and as such are deeply interested in everything pertaining to it. This must be our apology for devoting so much of our space the present month to its chronicles. It will be seen, however, that very much of this matter is of general interest.

Back Numbers Wanted.

To complete files, Twenty-five cents each will be paid for the following Nos. of the JOURNAL for 1869: June 1, No. 11; July 15, No. 14; August 1, No. 15; August 15, No. 16.

News and Gossip.

CARL FORMES, the distinguished *basso*, it is said has married a lady physician in Vienna who cured him of an abscess in the throat. Carl is certainly generous. A few years since he presented a Chicago physician with an elegant piano for curing him of a sore throat which impeded his vocal success. So said the physician and the papers.——Twenty-five patients from the Insane Hospital attended the Fechter Matinee, at the Globe Theatre in Boston, recently.——A correspondent sends the *Iowa City Republican*, several columns of which are devoted to a recent resurrection case in that village. Aside from the excitement such affairs usually cause in country towns, there is developed a local professional opposition to the Medical College which is somewhat unexpected. We had supposed that the "Iowa City" school was the especial pet of our bucolic brethren in that State. The rela-

tives and friends of the defunct, together with a number of the local physicians, denounce the Faculty as the authors of the "outrage," but the latter utterly deny the soft impeachment, and claim that they get their *materièl* in States where the laws permit. The *corpus delicti*, duly injected, etc., for use, they claim was procured without their authority or consent. It is a pretty quarrel, as it stands, and we hope the enterprising gentlemen who seek to elevate the profession by starting a new school in a country hamlet, may find their way happily out of it. The fifth wheel never should squeak.——The *Reporter* (Philadelphia) publishes a number of puffs which its subscribers have sent him on renewal of their subscriptions, whereupon the *Richmond and Louisville* editor (with multitudinous associates) strikes out from the shoulder thus: "As to its value [*id est*, 'The largest Medical Journal in America'], there is a heavy [*sic*] file of testimony from distinguished physicians throughout the whole country, but these opinions are never published, because it is justly regarded as coarse, vulgar, and reprehensible to do so." First blood for the Southron.—— A reviewer in the *American Journal of Medical Sciences* has a savage critique on Prof. Byford's new book on "The Theory and Practice of Obstetrics." He rages up and down the pages of our venerable, and usually exceedingly staid, contemporary, like a veritable "hot livered grammarian" gone out of his senses. Meanwhile it seems to us funny, and somewhat incomprehensible, that our quarterly *confrere* should have always, heretofore, puffed our respected townsman's books, and at this late day incontinently "goes back on him." The last book is immensely superior, both in doctrine and delivery, to either of its predecessors. "Why is this thus?"——Meanwhile we are reminded of what is said to be a fact by those who were there. A learned teacher (who is said sometimes to be a little careless in remarks he makes to other physicians' patients, as well as in his grammar), on occasion was exhibiting a speculum to the wondering gaze of a dozen or so of medical students, and is credited with saying, "I do not care what may be said of this instrument, I made sixteen thousand dollars last year by it." Happily the speculum furor is abating.——The Homœopathists are irate because one of their fraternity who had been appointed an examining surgeon for pensions, was removed as soon as his *status* became known at headquarters.——Queen

Victoria, like a sensible woman, discountenances the attempt of several of her "strong-minded" to don Æsculapian pantaloons, The short-haired women and long-haired men everywhere lament her position. Why don't they refer it to the "hereditary insanity" of her family?——Porter has been made Admiral (*per aspera*). but he can never be made *admirable* to our professional brethren in the naval service. It appears, however, that the vexed question of the "assimilated rank" is near settlement. The staff officers are to have what the women are after—their rights.——The publishers of a book, noticed in the JOURNAL of last month by our lively correspondent "Volta Reeke," positively adduce, in a public advertisement, the fact of such notice, without indicating its character, as an inducement to the public to purchase their book. We call the attention of the State's Attorney and the Grand Jury to their duty in the premises. The entire edition should be seized and destroyed, and the statute against obscene publications enforced against its getters up. It is time that these filthy emanations from the public press should be stopped. And yet a desperate effort is being made to introduce this worst "Satan in Society" to the center-tables of the very elect.——The Chicago Board of Health, we hear, have at last issued a volume of records of their doings and proposings.——Prof. Skoda, of Vienna, on account of failing health, has resigned the chair of Clinical Medicine.——Brown-Sequard has taken up his residence in Boston, leaving Paris on account of the war.——Helmbold-Buchu entertains the New York Press with splendid dinners, drives an unequaled tandem on Broadway (for which latter he is arrested and fined) and in return is put in the field as a candidate for the presidency by gentlemen whose appetites he has gratified by his viands, and whose smarting urethras, it is fair to suppose, he has appeased by his nostrums.——Dr. Zacheus Bass, upon whom an honorary degree was recently conferred by Rush Med. College, was a surgeon in the war of 1812, and has been in continuous successful private practice ever since. He resides in Middlebury, Vermont.——Efforts are being made to utilize the nutrient material abstracted from meat by the brine used in preserving it. Mr. Whitelaw, of Glasgow, by a process of dialysis, gets a pint of solid extract of meat from two gallons of brine.——Dr. George T. Elliott, Professor of Obstetrics in Bellevue Hospital Medical

College, died Jan. 29th. He had an attack of apoplexy in July last, from which he had apparently recovered. He was widely and favorably known by his contributions to the medical journals, his volume, "Obstetric Clinic," as well as by his connection with the College.——A monument to "Wm. T. G. S. Morton, Inventor and Revealer of Anæsthetic Inhalation—Before whom in all time Surgery was Agony—By whom pain in Surgery was averted and Annulled—Since whom Science has controlled Pain," has been erected at Mount Auburn, by a committee of the most eminent medical gentlemen in Boston. The committee also propose a national subscription for the family, who are left in straitened circumstances. These things are very "fit to be done." Unlike many epitaphs, this tells the truth fairly, honestly, and yet nobly. We trust the national subscription may prove a great success.—— Although chloral in large doses evidently tends to aggravate bronchial congestion, Dr. Caspar Morris commends it in asthmatic bronchitis. He gives five grains (every two hours p. r. n.) in Aubergier's Syrup of Lactucarium.——M. Chaufford (Societé Med. des Hopitaux) uses large doses of carbolic acid in the severe secondary fever of confluent small-pox. He gives one gramme (15.4 grs.) in four or five ounces of menstruum during the day. External lotions of the same are contemporaneously used. He asserts that this treatment causes rapid disappearance of the febrile phenomena of the symptoms of suppuration. Nothing is said with regard to the diet or use of other remedies. A full, nutritious diet with plentiful stimulus, in our experience, is absolutely essential. Possibly the carbolic acid may render other stimulus, save dietetic, unnecessary.——Rumor hath it that Prof. Henry H. Smith, of the University of Pennsylvania, occupant of the chair of surgery since 1855, is about to resign. His successor is not named. Is it "the great Christian Surgeon of the Northwest," (*Vide N. Y. Independent*), the "successor of Dr. Brainard," (*Vide* several other newspapers)? We should be exceedingly loth to lose *him*, but we will send his lithograph in "*The Arts*," with extreme pleasure.——A she-doctor of the infinitessimal persuasion, records a case of tubal pregnancy (*Medical Investigator*) which was cured by *Caul. Puls.* and *Gels. Caul.* predominant. Carbolic Acid and Hydrate of Chloral incidentally. *Puls.* was 6th, but *Caul.* was a grain to a goblet of water.

Loot.

Poisoning by Carbolic Acid.

The *Canada Med. Journal* reports a case from the Montreal General Hospital, where a patient manifested symptoms of the toxical effects of carbolic acid by external application. He had been suffering from acute eczema of the entire cutaneous surface for some five weeks. All applications having proved ineffectual, an ointment of carbolic acid and lard, one part to four, was applied to the arms and thighs. An hour and a half after the application, the patient was found apparently moribund. Prompt cleansing of the surface, and internal administration of stimulants, both by mouth and rectum, restored him. Five hours later free vomiting occurred, and the vomited matters gave off a strong odor of carbolic acid. Upon recovery, the patient stated that a few minutes after the application of the ointment he realized "a peculiar burning, pricking sensation over the whole body," accompanied by extreme vesical tenesmus, and then followed a state of perfect insensibility.

Intermittent Fever successfully treated by th Iodide of Potassium after Quinia had failed.

Dr. S. L. Abbott records (Boston Medical & Surgical Journal, Oct. 7, 1869), a case of this kind: A young man had had repeated attacks of intermittent fever. During his last attack "the chills had recurred daily, and the patient had suffered much from almost constant, deep-seated pains of a rheumatic character, mostly in the chest and arms, which were most severe in th.e latter part of the day and at night, sometimes seriously disturbing sleep. There was some tenderness on pressure over the spleen, but no enlargement of that organ could be felt. Appetite much impaired. ℞.—Potass. iodid., gr. v; Fl. ext. quassiæ, f℥ss before each meal.

"May 18. Patient reported that he commenced the use of the medicine on the 14th. On the evening of that day he had a severe chill, which lasted two hours, and was followed by fever and profuse sweating, as usual. On the 15th he had another attack, but much less severe. There had been no recurrence since. The appetite was improving; the bowels were regular, and the patient felt much better generally. Directed to continue the use of the medicine until the 21st, when the evening dose to be omitted.

"June 3. No chill since last report. Appetite said to be 'enormous,' 'better than for three years.' Patient says, 'the medicine killed the ague in just two days.' The pain in the bones ceased after the third day."